GE Healthcare

Centricity* PACS and PACS-IW with Universal Viewer

Universal Viewer
Product Data Sheet

Introduction

With the introduction of Universal Viewer, GE Healthcare delivers a powerful unified work space for radiologists and clinicians, bringing together current capabilities with innovative differentiators that help drive optimal performance through connected, intelligent work flows.

Universal Viewer is a unified web-based viewer that focuses on improving productivity and enhancing patient care by delivering new innovative applications and technologies, including:

- Intelligent productivity tools, including smart hanging protocols
- Advanced Visualization applications, including oncology
- Breast Imaging Workflow, including screening and diagnostic capabilities
- A common, streamlined, ergonomic user interface
- Access anywhere — web based, zero footprint (ZFP), and web client access

Universal Viewer intuitively brings together 3-D postprocessing, breast imaging tools, and enterprise-wide access on a single desktop with a choice of web-based and ZFP configurations.

Unlike disparate PACS and 3-D systems, Universal Viewer increases efficiency by simplifying information access with a single image repository across 2-D and 3-D studies, enabling holistic oncology and other specialty work flows, with easy access to prior exams.

Over 3,000 organizations trust Centricity* imaging solutions because GE Healthcare delivers high-quality service, reliability, and technology innovation, which allow providers to lower cost of ownership today and prepare for the challenges of the future.

The new "Lights Out" feature is a great addition for enhanced viewing in dark rooms. The soft grey and blue color palettes draw the eye into the GUI and soften the transition from icons to text and other GUI boundaries.

A new ZFP viewer delivers clinicians easy access to images and reports when connected with an EMR or GE's Centricity Enterprise Archive. The ZFP has the added advantages of zero installation, with no download of any software and zero administrative rights required on the end user's device.

Universal Viewer allows a radiologist or clinician to perform the review, manipulation, and diagnostic interpretation of images and other information generated by acquisition equipment. Since images can be stored in a number of systems within your enterprise, Universal Viewer can access data stored in GE Healthcare's Centricity PACS or Centricity PACS-IW systems, as well as Centricity Enterprise Archive.

Universal Viewer can display DICOM and non-DICOM images generated by other PACS or DICOM sources. These images may originate from other PACS systems, a CD import, or a DICOM sent from another PACS system. Multiple users can remotely access the images from compatible network computers.

Centricity PACS and Centricity PACS-IW with Universal Viewer put clinical insight within reach to help care teams deliver patient results efficiently.

Intelligent Productivity Tools

- **Universal Viewer's intelligent productivity tools focus on helping to improve radiologists' productivity. With the new Universal Viewer, GE introduces the new Smart Reading Protocols.[3]**
- **The new Smart Reading Protocols actively assess all information associated with a study to determine the most appropriate method for the study to be hung.**
- **Universal Viewer also includes a quick-learning feature—an easy, one-click save of any new settings created by the radiologist during reading. These quick- save, intelligent hanging protocols are then applied the next time a similar image is presented for viewing.**

Advanced Visualization

Universal Viewer provides a seamless user experience for advanced visualization. It offers a single source for postprocessing applications for MIP/MPR, PET-CT, vessel analysis and auto-bone removal, integrated registration, and oncology quantification. This decreases the need to log in to multiple applications and retrieve images for comparison from other systems and allows radiologists to read exams more efficiently. This also increases IT deployment productivity by eliminating requests for DICOM resends and image moves between systems.

The advanced visualization applications are integrated into the system's hanging protocols, eliminating per-exam setup other systems may require.

Preprocessed images are displayed on the monitor according to the radiologist's preset specifications, allowing for more rapid reading.

Advanced Mammography

Universal Viewer provides access to an advanced mammography work-flow application, which supports screening and diagnostic work flows and display of multimodality images on the same solution. This allows mammographers and radiologists to quickly access patient history and relevant priors.

The mammography work-flow application provides support for the newest IHE profiles for mammography images. This eliminates the need to read images on separate workstation solutions.

Seamless support for reading tomosynthesis and CESM images is also available, eliminating the need to read these images on separate, stand-alone workstations.

Access Anywhere[4]

Web-client

Universal Viewer's web-client provides radiologists, referring physicians, and other clinicians access to the system from any location.
The study list serves as the hub of the work flows and is browser accessible, providing fast access to vital study and patient information, including order data, notes, and reports.

By selecting a study from the study list, the viewer is launched for study viewing.Utilizing the newly re-architected SmartLoading™ technology, the first image is displayed to the user within 2 seconds.[4,5] From that point forward, a user can freely navigate the study content with the viewer adaptively ensuring fast delivery of the currently viewed image in the best available quality.

The SmartLoading™ technology evaluates the format in which images are stored (uncompressed, compressed in JPEG, JPEG2000, or RLE formats) as well as the network condition between viewer and storage to provide the most efficient way to deliver images. All patient and study information is transmitted using the 128-bit SSL protocol for encryption.

Universal Viewer can access the historical studies directly from the archive if studies are not readily available in the local data store.

With the web-based viewer, organizations can provide referring physicians and clinicians direct access to the PACS systems or provide access with tight connectivity through an EMR.

All referrers can have the same advanced postprocessing capabilities as the radiologist and consult large datasets from their practice desk, allowing a fast and secure treatment of their patients, or organizations can use security and preference settings to define what external users can do.

Universal Viewer's web-based architecture enables easy administration from virtually anywhere. Installation of the client application is virtually effortless, freeing up administrator time for other activities.

The scalable, flexible architecture provides tight connectivity with Centricity Enterprise Archive and various RIS and EMR systems for one-click access to the images.

Zero Footprint Client

The ZFP version of Universal Viewer provides clinicians with easy access to images and reports in a non-diagnostic, review-only mode. The ZFP version enables direct connectivity to an EMR or GE Healthcare's Centricity Enterprise Archive.

Universal Viewer's ZFP version has the added advantages of zero installation, with no download of any software (web or product), and zero administrative rights required on the user's device.

Volume-Based Licensing

Our volume-based license model provides an expanded number of users access to a feature-rich diagnostic viewer. Our licenses do not differentiate between radiologist, radiographer, clinician, or referring physician. All users have access to the same user interface, tool set, and databases, with specific functions and privileges granted for each user or group of users.
Wherever users log into the system, either via WAN or LAN, they get their personalized toolbars and hanging protocols that are tied to their logon.

Summary of Benefits

Universal Viewer optimizes radiologist work-flow efficiency through the use of advanced study layouts; multiple presentation states; advanced, intelligent hanging protocols with variable-sized, asymmetrical windows and "copies" of windows; 2-D stack-based reading tools; and integrated 3-D reconstructions.

Within a few mouse clicks, a referrer accesses the same software and clinical tools as radiologists. A dedicated referrer role provides important results at a glance: report and diagnosis, key images, and scanned documents, as well as access to the complete study and set of viewing tools.

The overall user interface is highly customizable to meet explicit needs and preferences of the users.

Key Features

A number of standard and advanced viewer features are available:

Standard Tools

- Automatic, adaptive display sizing
- Easy arrangement of images using exclusive SNAP! tool
- Complete image manipulation (Window/Level, Zoom/Pan, Flip/Rotate, Cine, Image Filters)
- True-resolution magnifying glass
- Anatomical 3-D cross-reference
- Slab scrolling
- Global stack
- True-size viewing
- Annotations and measurements
- Prior exam comparisons with image synchronizations

Specialty Tools

- MIP/MPR
- PET/CT
- Vessel analysis
- Oncology work flow
- Automated registration
- Bone removal
- OB measurements
- Spine labels
- PET/CT fusion
- Optional third-party integrations for orthopedic templating

Work Flow Enhancement Tools

- Flexible, individual, user-defined, on-the-fly work lists
- Multistudy, multimodality hanging protocols
- Key Image Viewer
- Image navigation
- Dictation integration
- Local CD burning
- CD import
- DICOM send
- DICOM print
- Assign to work list
- Grant temporary access
- Bookmarks

Client Hardware and Operating Environment

Universal Viewer is compatible with a variety of the operating environments of the client computers.

Recommended specifications for the workstations:

Diagnostic Workstations

- Dual Quad Core 2.0 GHz 64-bit Intel Xeon processors
- 8 GB RAM
- Mirrored 146-GB hard drives
- DVD-RW Optical drive
- 16-GB NIC card
- Windows 7 Professional 64-bit OS
- Internet Explorer 8, 64-bit

Clinical Review Workstations

- Quad Core 2.0 GHz 64-bit Intel Xeon processors
- 4-GB RAM
- Mirrored 146-GB hard drives
- DVD-RW Optical drive
- 16-GB NIC card
- Windows 7 Professional 64-bit OS
- Internet Explorer 8, 64-bit

Mammogram Workstations

- Dual Quad-Core Intel Xeon 2.00 GHz processor
- 8-GB RAM
- 1x HDD 160-GB capacity for operating system
- 2x HDD 500-GB capacity for local database cache
- Display controller with standard DVI connector
- Network controller with 1-G Bit/s
- Windows 7, 64-bit

DICOM Support Universal Viewer Web-client

- Single-frame and enhanced CT, MR, US, PT, XA, RF, SC Images
- Presentation states (PS)
- CR, DX, MG, IO, SC, XA, VL endoscopic, microscopic, and photographic image storage, slide coordinates microscopic image storage
- Key image notes (KIN)

IHE Profiles

- Scheduled work flow
- Patient information reconciliation
- Consistent presentation of images
- Access to radiology information
- Portable data for imaging
- Consistent time
- Additional profile support is implemented by Centricity Enterprise Archive

About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our "healthymagination" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries.

For more information about GE Healthcare, visit our website at www.gehealthcare.com.

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[1] Where there is an internet connection available

[2] GE Healthcare Carnegie Mellon Human-Computer Interaction Institute PACS Usability Project DOC1220305

[3] Patent Pending

[4] Where there is an internet connection available

[5] Performance data reflect results of the tests in controlled environment; actual performance of the system depends on the operational and networking environment, as well as system load

imagination at work

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