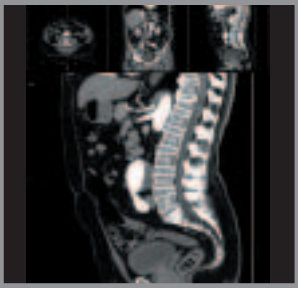


CARESTREAM Virtual 3D Solution

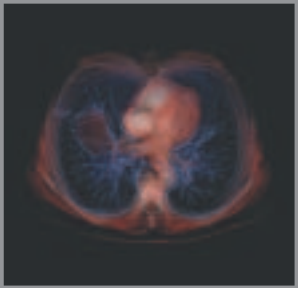
Changing forever the way you view images

Carestream 
HEALTH

Powerful tools to streamline interpretation of complex studies



Multi-planar reconstruction (MPR) automatically reconstructs coronal and sagittal views from original axial slices for better visualization of organs, tissues, and the relationship between them. Reconstruction of data in straight or curved cross-sectional planes inclined to the original slices is supported.

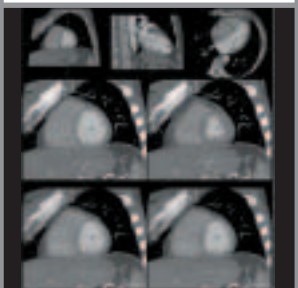


Maximum intensity projection (MIP) projects in the visualization plane the voxels with maximum intensity, thereby enhancing the viewing of vascular structures and other high-density tissue.



Minimum intensity projection (MinIP) projects in the visualization plane the voxels with minimum intensity, thereby enhancing the viewing of pulmonary tissue, airways, and other low-density tissue.

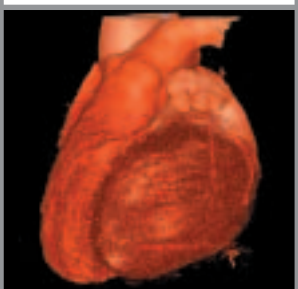
Volume rendering provides the ability to define color and opacity values to anatomy, creating a 3D image that can be easily viewed from any angle.



Calcium scoring module analyzes calcified plaque in five main blood vessels of the heart and generates a calcium scoring report.

Vessel tracking defines and segments vessels from a minimum number of seed points. Automatically generates panoramic and cross-section views for analysis.

Tissue definition defines 3D tissues for better visualization of specific anatomy. Tissues can be shown or hidden, and opacity adjusted for better pathology visualization.



Coronary Analysis segments and labels the coronary tree for diagnosis of stenosis and occlusions. Generates panoramic and cross-sectional views of the main heart vessels including the left main artery (LMA), right coronary artery (RCA), left circumflex artery (LCX), and posterior descending artery (PDA).

Cardiac Analysis automatically generates cross-sectional views of the heart. Supports single-phase and multi-phase capabilities, along with cardiac cine for the study of wall motion.

Automatic cage removal removes the rib cage and surrounding non-essential tissues from the heart for improved coronary analysis.



The Challenge

Clinical and Business Demands

- ▶ Current environment has limited or no 3D processing and display
- ▶ Dramatic growth in study volume and images per study require an efficient reading process
- ▶ Reduce reading time on large multi-slice studies while ensuring a quality diagnosis
- ▶ Compare 2D and 3D simultaneously
- ▶ Access to advanced viewing and manipulation tools anytime, anywhere
- ▶ Obtain necessary tools to read exams with high reimbursement rates
- ▶ Honor IT's request to reduce equipment footprint as well as expensive standalone equipment

The Solution

Proven, Flexible, and Scalable

The CARESTREAM Virtual 3D Solution:

- ▶ Is a flexible and scalable solution that can work parallel to, or be integrated with, your current PACS
- ▶ Offers simultaneous 2D/3D advanced image comparison, manipulation, and reading capabilities for current studies with multiple priors
- ▶ Provides advanced data streaming for high performance across low-bandwidth WAN connections
- ▶ Displays the same user interface, work list, and tools whether inside or outside the facility
- ▶ Is easy to install, easy to learn, easy to use, and requires minimal support
- ▶ Can be scaled into a full PACS without a software forklift

The Results

Efficiency and Confidence

- ▶ Reduced consumables and lower storage and handling costs for customers still reading film
- ▶ Ability to handle increasing study and image volumes with improved workflow
- ▶ Cost savings due to improved efficiency
- ▶ Increased diagnostic confidence through enhanced visualization of pathology
- ▶ Improved user satisfaction through streamlined workflow, and user preferences that follow individuals wherever they login

The CARESTREAM Virtual 3D difference

Enhance Workflow

- ▶ Access complete patient imaging history, including information stored in the existing PACS, from virtual patient jacket
- ▶ Save 3D images and structured reports as DICOM secondary capture, and export them back to the existing PACS for use in final review, reporting and, patient consultation
- ▶ Automatically generate reports with embedded 2D/3D key images, measurements, and findings, for clear and succinct communication to the referral community
- ▶ Reduce the learning curve with an intuitive Windows-like interface that provides step-by-step wizards for advanced functions

Powerful and Configurable Display Protocols

- ▶ Display protocols can be customized for individuals, departments, or enterprise
- ▶ Comparisons with relevant priors are automatically displayed through advanced linking that accounts for slice thickness; applies advanced processing prior to initial image display
- ▶ Support multiple concurrent 3D displays of current and prior studies enabling easy comparison of complex exams

Advanced Streaming

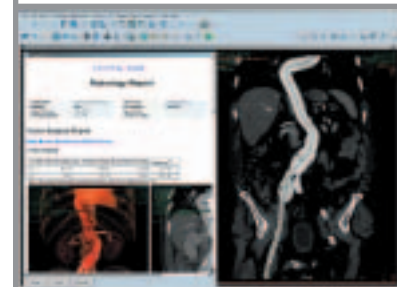
- ▶ High-performance data streaming technology provides visually lossless images to the desktop in less than 2 seconds across low-bandwidth connections (10Mb)
- ▶ Advanced proprietary compression algorithms are applied to individual slices, resulting in maximum transmission speed with the highest possible image quality
- ▶ Users can immediately access any of the 3D tools to manipulate the image data as the remaining layers load in the background
- ▶ Intelligent loading prioritizes the images displayed based on the user's area of interest. The loading sequence is dynamically modified as the user changes focus to another location in the volume

Flexible Architecture

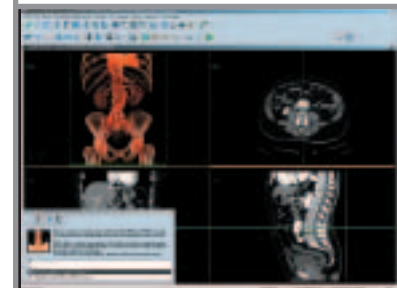
- ▶ Can be used in parallel, or integrated with any vendor's PACS
- ▶ Supports integration with any DICOM CT and MR modalities
- ▶ Enables standalone and workgroup configurations to be scaled to meet to the number of users and reading volume
- ▶ Workgroup configurations provide options with no concurrent user limitations
- ▶ Provided as standard, off-the-shelf configurations for easy installation, training, operation, and quick ROI



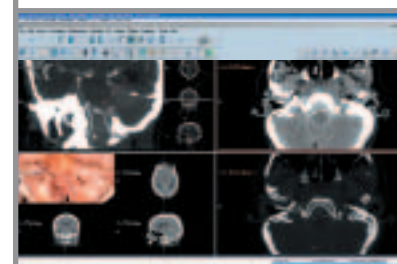
Sophisticated display protocols allow viewing of current exams with multiple prior exams, including 3D.



Structured reports are automatically generated for cardiac and vessel analysis studies.



Step-by-step Wizards walk users through complex functions.



Automatically display studies in MPR, MIP, MiniIP, and 3D to expedite the reading process.

Powerful, flexible, and scalable to maximize your existing investments

Regardless of your current imaging environment, the CARESTREAM Virtual 3D Solution can meet your image manipulation and interpretation needs in a cost-effective manner.

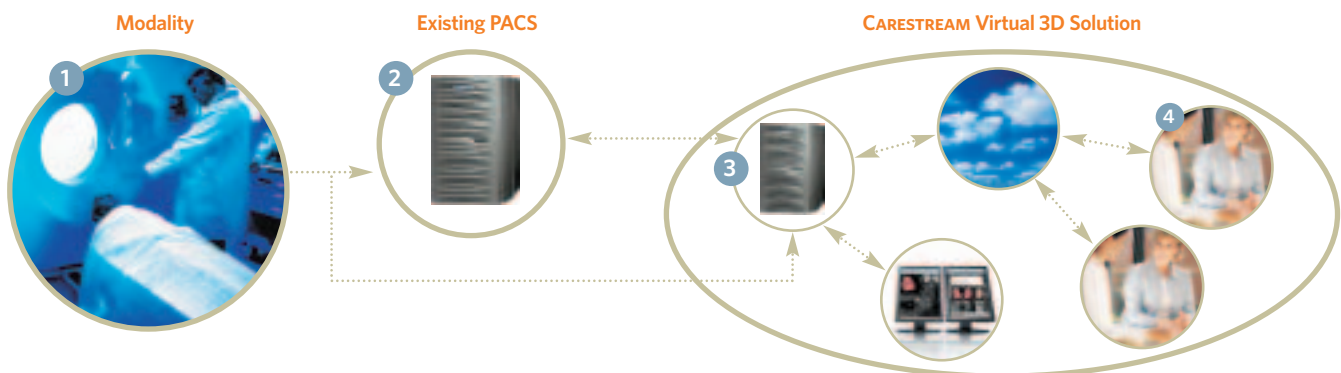
Workflow with no PACS installed

- 1 Standard package provides three DICOM connections for any modern CT or MR scanner. Upon acquisition, images are sent to the Virtual 3D Solution workstation.
- 2 The workstation applies advanced display protocols and supports comparison of current and prior images. Once read, the study, key images, annotations, and reports are saved on the Virtual 3D Solution for future reference. Results can be printed, burned to a DVD/CD, or e-mailed inside or outside the enterprise.
- 3 Robust visual data and reports are available enterprise-wide for physician/patient encounters as well as surgical and care treatment planning.



Workflow with an existing PACS for enterprise-wide access to 3D

- 1 Standard package provides three DICOM connections for any modern CT or MR scanner. Upon acquisition, images can be sent to either the CARESTREAM Virtual 3D Solution server or the existing PACS and forwarded to the the CARESTREAM Virtual 3D Solution server.
- 2 Relevant priors can be pre-fetched from an existing PACS by the CARESTREAM Virtual 3D server. Upon launching of the CARESTREAM Virtual 3D client application current and prior studies are automatically compared with linking, MIP, MRP, or 3D reconstruction based on the display protocol that was applied.
- 3 The CARESTREAM Virtual 3D client application provides access to a complete suite of tools for quick and confident viewing. Any study status change, key images, annotations, and reports are saved for archiving and distribution. Results can be printed, burned to a DVD/CD, or e-mailed within or outside the enterprise.
- 4 Users can access the CARESTREAM Virtual 3D Solution client application from inside and outside the enterprise, for full access to visual data and reports, assisting the physician/patient encounter as well as surgical and care treatment planning.



Options for specialized procedures in your facility

Expand your review and diagnostic capabilities with the seamless integration of these clinical applications.

Image Fusion

Integrates Siemens Fusion7D™/XD™, enabling the alignment of information from different medical scans to localize and confidently assess tumor volumes and disease progression.

Orthopaedic Templating

Enables surgeons to perform orthopaedic pre-operative planning and templating using digital images.

Virtual Colonoscopy

Integrates Viatronix V3D-Colon, enabling 2D and 3D fly-through views of the colon for the assessment of polyps with near 100% coverage.



More information

Learn more about CARESTREAM Solutions by contacting your Carestream Health representative or call 1-877-865-6325, ext 655.

it.carestreamhealth.com

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HEALTH

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