

VITAL IMAGES INC.: DELIVERING SUPERIOR IMAGING ACCESS AND PERFORMANCE IN THE TEAM MANAGEMENT OF THE CARDIOVASCULAR PATIENT

Why Crawl When You Can Fly?

Researchers are continuing to elucidate many of the mysteries surrounding the underlying pathology of cardiovascular disease, which remains the leading cause of mortality and morbidity in the United States and other industrialized countries. Fortunately, a decade of rapid progress in CT, MR, and PET imaging has brought about cost-effective, less invasive modalities for its detection, prevention, intervention, diagnosis, and treatment. One author succinctly expresses the inherent pathology of coronary artery disease (CAD) and our clinical advances in this way: “The long latent phase of the disease and often sudden initial presentation make efforts at early detection extremely important. In addition, new imaging modalities introduce the possibility of screening for sub-clinical disease. Electron-beam and spiral CT scanners, as well as other techniques are emerging as powerful tools to detect early disease presence and allow intervention to take place before major clinical events occur. Advances in our understanding of the pathophysiology and our ability to image the stages of silent disease will go hand in hand to revolutionize our approach to prevention and treatment of this deadly disease” (1).

Vital Images Inc. (Plymouth, MN) is a pioneer in the field of advanced medical visualization. The company’s **Vitreia®2 version 3.5** high performance visualization software sets the standard for power, speed, and ease of use. **ViTALConnect™** Web-based software gives physicians instant access to advanced

visualization wherever and whenever they are needed. Together, these products provide the combination of performance and access so vital to improving patient care. They also enable physicians to communicate the clinical diagnosis and therapy planning better with patients—helping relieve concerns and alleviate anxiety. The company’s technology utilizes high-speed volume visualization and analysis, as well as network communication based on DICOM and Internet protocols. This provides instant access to vital diagnostic imaging and the capacity to work with

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—Lawrence M. Tanenbaum MD

large datasets, as well as data sets acquired at different times and from different manufacturers. The company’s focus on the clinician drives its ongoing application development, resulting in fast, intuitive clinical software with an enormous range of current and future applications.

Vitreia version 3.5: The Power to Improve Diagnosis, the Speed to Improve Screening

Vitreia software is keeping radiologists at the forefront of care through precise anatomical images. The CT Cardiac option to Vitrea provides a noninvasive alternative for clinicians to survey the coronary arteries *quickly*. By strengthening the ability to visualize anatomy and pathology clearly, Vitrea software improves diagnosis and treatment planning and potentially enables improved patient outcomes. It offers:

- Two curved views orthogonal to each other;
- Percent stenosis calculations;

- Quick output via DICOM, CD-ROM, Web, and word-processing;
- Length measurement tools;
- MIP oblique views to follow the vessel;
- MPR images of the vessel;
- Cross-section of the artery and advanced vessel analysis;
- Short-axis view;
- Long axis two-chamber view; and
- Long axis four-chamber view;

ViTALConnect

Recently introduced ViTALConnect is a medical diagnostic software tool that allows physicians to use PCs or notebook computers to access 2D, 3D, and 4D advanced visualization from a Web-enabled thin-client server. With ViTALConnect, users can process, analyze, review, and distribute multi-dimensional medical images over the Internet, turning everyday PCs into diagnostic workstations.

One of the most compelling benefits of the ViTALConnect software is its *accessibility*. ViTALConnect is the *only* visualization software available that provides powerful Net-conferencing capabilities. This collaboration mode within ViTALConnect enables multiple physicians in different locations to confer, while interacting and manipulating the same images in real time.

“This software has the absolutely


wonderful capability of manipulating raw data and bringing you to a diagnosis very quickly”, says Lawrence M. Tanenbaum, MD, who has used Vital Images products almost since their inception. Dr. Tanenbaum is the Section Chief of MRI, CT, and Neuro-radiology at the JFK Medical Center, and Assistant Professor, Department of Neuroscience at the Seton Hall School of Graduate Medical Education (South Orange, NJ). He continues: “This software has one-click capability; it’s also highly intuitive and interactive. It’s built for seamless adaptability to all types of imaging equipment.” Dr. Tanenbaum says of the new ViTALConnect, “I could be in China and still have the ability to access the data and commune with the entire medical team at the same time. This is a big positive!”

ViTALConnect can analyze data sets from CT, MRI, and PET scanners, as well as a variety of other modalities. Cardiac images composed of multiple phases can be viewed over time in 4D, creating a beating heart in time-series coronary studies. Additionally, ViTALConnect software can fuse images from two different scanning modalities (such as PET/CT) at the same time, to give clinicians richer diagnostic information.

ViTALConnect offers the advanced processing tools physicians

need to make quick and accurate diagnoses. They include:

- Multiple-user Connectivity;
- 4D interactive visualization;
- 2D review, visualization, measurements, annotation;
- Multi-planar reformats;
- Advanced visualization MIP volume rendering;
- Multi-Modality (CT, MR, CR/DR, XA, RF, NM, U/S);
- Sculpting;
- Batch creation; and
- PET/CT overlay;

In summing up, Dr. Tanenbaum says, “Vitrea is what we use to harvest and digest the ever-increasing image data load, and the ViTALConnect piece gives us the capability to confer with the entire team at the same time. This software does a beautiful job!” 

For more information concerning the Vitrea or ViTALConnect software, call Vital Images, Inc. at 1-800-231-0607; contact a Toshiba representative for a demonstration at TCT, booth #1225; or visit the Vital Images Web site at www.vitalimages.com.

Reference:

1. Slater J, Rill V. *Semin UltraSound CT MR*.2003 Apr;24(2):114-22.