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## DISC Inc. and Sun Provide Cost-Effective Way To Store Large Images Online

**D**ISC Inc., a manufacturer of automated solutions for enterprise storage, along with Sun

Microsystems, Inc. have announced the successful implementation of DISC's storage libraries with Sun servers.

Recently, the University of California San Francisco (UCSF) Radiology Department upgraded its PACS. The PACS incorporates the radiology and the hospital information systems to create an intelligent patient resource. At the core of the PACS are DISC libraries and Sun Enterprise servers.

Sun Enterprise servers, Solaris Operating Environment, and Java software provide the reliability, interoperability, and connectivity UCSF Radiology needs to help power its radiology solutions and integrated hospital environment. Sun's platforms and solutions have transformed radiology from science to innovation to informatics. Java software has helped PACS become a viable and pervasive solution for small to large medical facilities.

The DISC/Sun implementation offers



the UCSF Radiology Department an environment that delivers multiprocessing and multithreading capabilities for computer-intensive graphics. With this architecture, DISC and Sun customers can be confident that their stored

## E-Z-EM INTRODUCES PROTOCO2L COLON INSUFFLATION SYSTEM FOR VIRTUAL COLONOSCOPY

**E**-Z-EM, Inc. has announced that it has received 510(k) clearance to market its new colon insufflation system—consisting of an automated insufflation device and disposable administration sets—for virtual colonoscopy procedures.

The product, trade-named PROTOCO2L, uses carbon dioxide to distend the colon for accurate imaging diagnosis and patient comfort. Virtual colonoscopy (also referred to as CT colonography, or CTC) is an innovative technology that visualizes the gastrointestinal tract using advanced CT imaging and three-dimensional computer reconstruction of that image data. Medical imaging literature has reported that the use of carbon dioxide, instead of room air, can reduce patient pain and discomfort from traditional colonography procedures. PROTOCO2L now brings the advantages of carbon dioxide to virtual colonoscopy, where insufflation of the colon is essential to a clinically sound examination. The PROTOCO2L colon insufflation system makes carbon dioxide insufflation a practical and simple procedure for the practitioner.

According to Judy Yee, MD, associate professor of radiology, at the University of California San Francisco (UCSF), and chief of CT and GI radiology at the San Francisco VA Medical Center, "PROTOCO2L was easy to use and provided more reliable and consistent optimum colonic distention than manual methods of administration. The most common postprocedure complaint voiced by my patients is the discomfort and cramping that can result from air remaining in the bowel after an examination. Using

carbon dioxide, which is absorbed into the body through the intestinal wall, I have found that many patients have virtually no discomfort after the procedure. PROTOCO2L has made colon distention easy for our practitioners and our patients."

Beyond the comfort of carbon dioxide, insufflation with the PROTOCO2L system offers many advantages over traditional hand insufflation. Gas pressure is regulated and constant, minimizing the pressure spikes that can occur during manual insufflation. Safety controls are designed to protect the patient from overpressure conditions. Also, because the process is entirely automated, it can help improve staff productivity. The latex-free PROTOCO2L administration set is simple to install and remove. An in-line fluid collection trap captures patient effluent, removing it from the path of the carbon dioxide. And a hydrophobic filter helps reduce the opportunity for patient cross-contamination. PROTOCO2L displays instantaneous gas pressure, records the total volume insufflated during the procedure, and even alerts the operator when the carbon dioxide cylinder is low. Further, it operates on standard utilities, so it is easy to transport and use in any environment.

For more information, visit [www.ezem.com](http://www.ezem.com).



images are secure and can be deployed quickly and efficiently.

For the storage portion of its PACS infrastructure, UCSF Radiology is using two DISC NearLine storage libraries. The complete DISC NearLine solution acts as an archival system to store digital images from multiple sources. Capable of storing up to 20 terabytes of data, the DISC storage libraries hold all the university's medical images from the past seven years.

"With the upgraded PACS, we can take all the images from every digital modality (eg, CAT scans, MRIs, ultrasounds, mammograms), store them on DISC's libraries, and send them to Sun's central servers. Then, based on the type of study it is, the digital image is routed to review stations located in radio clinical rooms. The uptime is 99.9% and it is rock solid," explains Todd Bazzill, computing resource manager for UCSF Medical Teaching Hospital, radiology.

For more information, visit [www.disc-storage.com](http://www.disc-storage.com)

## Varian Releases VariSeed 7.0 Treatment Planning Tool

**V**arian Medical Systems has announced the release of VariSeed 7.0, the company's newest treatment planning software for permanent seed implant brachytherapy used in treating prostate cancer. VariSeed 7.0 gives physicians the ability to use real-time images, generated during the implant procedure, to deliver precise doses more accurately than ever before.

Permanent seed implants for prostate cancer have become increasingly common in recent years. The procedure is completed in one day, and according to research published in *The Journal of the American Medical Association*, results are comparable to radical prostatectomy, with a much lower risk of side effects, such as impotence and incontinence. The popularity of permanent seed implants as a treatment option has risen rapidly; the technique was virtually unused 10 years ago and is now the treatment of choice for more than 50,000 men annually, according to

a healthcare research firm that tracks cancer treatment options.

VariSeed 7.0 has been engineered to facilitate real-time planning and image-guided therapy. That means that radiation oncologists can generate a treatment plan, use it to implant the seeds, and see how the radiation dose will develop within the patient's anatomy while the patient is still in the operating room. This allows for fine-tuning and more precise adjustments on the spot.

In the past, on-the-spot adjustments were impossible. "Physicians had been unable to verify the dose distribution until patients were brought back for a CT scan days or even weeks after the implant procedure was completed," says Ted Jackson, PhD, the chief developer of the VariSeed software. "We could give them excellent dosimetry based on the CT data, but too late to make any adjustments. With this powerful new software, we can track where each seed is placed in the prostate and show the resulting dose distribution in real time. Physicians can use this tool to assess quality, make plan changes, and adjust the implant while the patient is still on the table."

VariSeed 7.0 also introduces the ability to superimpose different kinds of diagnostic images, such as MRI and single photon emission computer tomography, which show the extent of disease, with CT and ultrasound images, which show anatomy and positioning. This enables physicians to adjust implants according to an individual patient's disease characteristics. "Now, for the first time, physicians can elect to give more dosages to areas within the prostate that they know have a greater

density of cancer cells," Jackson says.

For more information, call 888-666-7847 or visit [www.varian.com](http://www.varian.com).

## D3 Advanced Radiation Planning Services to Help Clinics Initiate IMRT

**L**eadership experts in radiation therapy have announced the formation of a new company, D3 Advanced Radiation Planning Services, that will enable hospitals and clinics to quickly implement a promising cancer treatment called intensity modulated radiation therapy (IMRT).

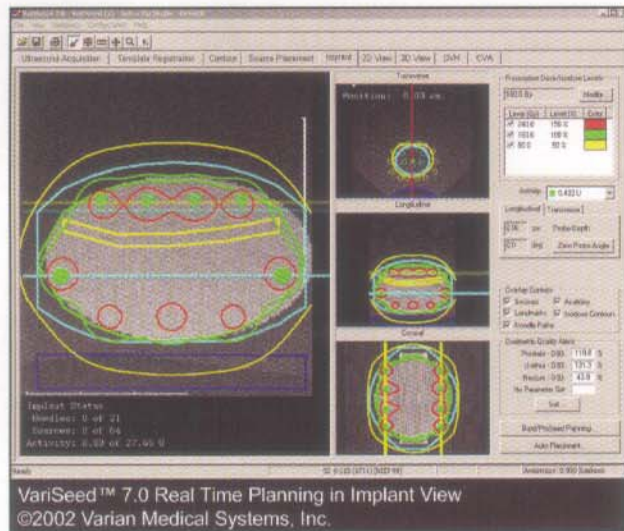
Using software from Varian Medical Systems, D3 will offer patient treatment plans over a telecommunications network, as well as training and other medical physics services needed for IMRT. The result will give cancer clinics and patients across the nation easier and more rapid access to this advanced form of radiation therapy. IMRT enables clinicians to potentially improve outcomes for cancer patients by concentrating higher radiation doses in tumors while protecting surrounding healthy tissue.

D3 will initially offer its services to the UPMC Health System at the University of Pittsburgh Cancer Institute (UPCI), which cofounded the venture. The new partnership will enable UPCI to rapidly implement IMRT throughout the UPMC cancer centers—an extensive network of hospitals and clinics that treat more than 25,000 patients annually. D3 will offer its services to hospitals and free-standing clinics across the nation.

"With additional physics expertise, planning, and support from D3, many clinics will be able to begin offering advanced radiotherapy, including IMRT, sooner, and that is good news for patients everywhere," says Joe Nicholas, CEO of D3.

"D3 will be the world's first radiation oncology telemedicine company, offering computer-generated IMRT treatment plans to cancer centers over a secure broadband network," says Nicholas. "We will help clinics adopt IMRT by combining centralized treatment planning with in-depth training on treatment delivery, verification, and quality assurance protocols while minimizing staffing needs."

Though promising for cancer patients, IMRT places entirely new and larger demands on medical physics staffs in radiation oncology centers. "D3 will provide hospitals and clinics, which lack the physics resources or funding for new technology, with a means of implementing IMRT," Nicholas explains.



**The column of three images (right) shows transverse, longitudinal, and coronal views from the preoperative treatment plan. In the larger image (left), the preoperative treatment plan is superimposed on a real-time ultrasound image. Even slight differences in seed position can be noted and the treatment plan adjusted accordingly.**