

# Providing the SPARC

**AG Mednet's image networking aiding clinical trials**

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In the world of diagnostic imaging, image delivery can play a huge role in the overall performance of a clinical trial schedule. Traditionally, clinical trials using images as part of the study protocol relied upon traditional mail and delivery services and exchanged images using computer discs, CDs, and non-specific file transfer protocols. This traditional approach is not only costly and labor-intensive, but can significantly delay the completion of clinical trials due to slow delivery times, human error, and hardware and software incompatibilities. Now there is one company, **AG Mednet**, whose executives claim that it can change the way diagnostic imaging is practiced and thus change the face of the industry.

AG Mednet is the world's largest diagnostic imaging exchange network. Executives say the company's newly devised network technology is being used exclusively to securely and rapidly exchange images for a comprehensive, 40-site clinical trial measuring myocardial perfusion and coronary anatomy imaging.

The Study of Myocardial Perfusion and Coronary Anatomy Imaging Roles in Coronary Artery Disease — also known as the SPARC trial — is a wide-reaching clinical trial that will enroll about 3,700 patients with and without a history of coronary artery disease who are being referred for routine clinical studies to one of four noninvasive imaging arms. The SPARC trial is being conducted by some of the nation's and world's preeminent imaging hospitals and centers, including Brigham and Women's, Massachusetts General Hospital, The Mayo Clinic, Mount Sinai, New York University Medical Center, Yale University, The Cleveland Clinic and The University of Florida at Jacksonville.

To ensure an efficient transfer of studies between locations and the SPARC image repository, and to minimize the burden imposed on the different participating institutions, SPARC selected AG Mednet and its diagnostic imaging exchange network to supply the study with secure and reliable transport and delivery of DICOM studies.

DICOM, or Digital Imaging and Communications in Medicine, is a data format and communications protocol used by modalities and PACS, or picture archiving and communications systems, to exchange images of various origins in a hospital setting. PACS are essentially databases used to store diagnostic image studies based on the DICOM standard and a set of software tools to render and display their contents on one or more screens. Because PACS are very vendor specific, moving images among PACS from different vendors is hard and costly.

"The beauty of AG Mednet's model — what we call Diagnostic Imaging



**ABRAHAM GUTMAN: AG Mednet's network enables easier compliance and faster access to images.**

Dialtone — is that the network effect it creates benefits all present and future participants on the network,” says Abraham Gutman, founder and CEO, AG Mednet (agmednet.com). “[The model] facilitates recruitment, improves compliance and accelerates workflow for imaging-intensive trials around the world.”

With AG Mednet’s DICOM protocol, the process has been expedited and simplified, executives say.

“What we at AG Mednet have achieved with our network infrastructure and routing platform is to create the first DICOM-only wide area network, effectively offering a carrier-class platform that enables the exchange of diagnostic image studies from any PACS or modality to any other PACS or reading workstation in a highly reliable, fast and secure manner,” Mr. Gutman says.

Executives say the AG Mednet network and its patent-pending technology ensures secure, reliable routing and delivery of full DICOM studies, with lossless, uncompressed image transmission across the company’s 10-gigabit nationwide network.

To use AG Mednet’s diagnostic imaging exchange network, there is no up-front capital investment and the technology allows an immediate return on investment. AG Mednet uses advanced IP routing in combination with DICOM protocols, adding such capabilities as DICOM Broadcast and stateful transfers, which greatly enhance transfer performance and reliability.

According to Mr. Gutman, the AG Mednet network enables easier compliance and faster access to images from participants.

“For SPARC, the AG Mednet platform represents not just a secure and efficient way to transfer images, but has enabled them to bring up participating sites a lot faster, and has given SPARC a tool that greatly

improves compliance without requiring any changes in existing clinical workflows,” Mr. Gutman says. “On the receiving side of SPARC, they have been able to avoid staffing-up to open courier envelopes and retrieve images from CDs, or do ongoing checks on FTP folders with the required additional file moves that this method entails.”

Advantages for hospitals and radiology practices using the AG Mednet network include the ability to regional hospitals to use sub-specialists from different centers; radiology practices to attract studies from multiple locations; rural facilities to route studies to any trusted radiologist; individual radiologists to interpret studies for multiple distant centers; department heads to get over-reads done by a far away colleague; and hospital CEOs to extend their relationships with retiring practitioners.

Executives say the company’s system offers multiple advantages for pharmaceutical, biotechnology, and contract research companies who use AG Mednet for clinical trials. Benefits include the delivery of secure, lossless digital images at all times directly to trial repositories anywhere in just minutes. In addition, companies receive faster, easier access to images and expert interpretation that is far less costly than traditional shipping methods or Web-based solutions.

Mr. Gutman says cost reduction can be a benefit because most sponsors only see the fees paid to couriers, and ignore the overhead required to get the images from sites to their destinations.

“Primitive electronic methods such as secure FTP, designed to move any kind of data from point to point effectively accelerate the movement, without providing any way to enhance the time it takes to access that data once it is delivered,” Mr. Gutman says. “With AG Mednet, the transfer of diagnostic imaging

cases goes from modality to repository without any intermediate steps or intervention.”

Companies can also enjoy streamlined processes and state-of-the-art technology that does not require capital investment, training, or IT administration. This enables easy access to hospitals and radiologists in the trial community for the secure and reliable exchange of diagnostic images.

Patient enrollment is also a crucial area in which AG Mednet can help clients. The company’s network provides what executives say is the first reliable, efficient and validated method to enhance recruitment, enabling trial managers to make decisions about patients in vivo. Through this technology, subjects can be considered for participation in a trial, with critical imaging-based eligibility criteria deciding whether to include or exclude a specific person.

“Since recruitment is the longest sub-phase of any clinical trial, making decisions while the patient may still be at the imaging site is highly desirable,” Mr. Gutman says. “This sort of real-time decision making is obviously not practical with CDs, nor with standard file transfer protocols over the Internet since there is too much work required on both ends to make the case available for immediate interpretation.”

All of these advantages allow companies to experience the flexibility and freedom needed to conduct smooth clinical trials and achieve faster results.

“With the AG Mednet solution, institutions conducting clinical trials are no longer at the mercy of the constraints felt by hospitals, imaging centers, or staffed radiologists,” Mr. Gutman says.

For companies who provide and use diagnostic imaging on a regular basis, that could be the biggest benefit of all.