



## CUSTOMER SPOTLIGHT

# Creating an efficient remote reading environment



Dai Kakizaki, MD, PhD

The migration from analog to digital and the elimination of film has led to radiology groups creating remote reading rooms where radiologists read for more than one institution. In Feb 2010, Toda Central Medical Group (TMG) opened a remote reading/interpretation center “Sai Teramedo”. The center reads for 15 facilities, including a screening center at Toda Central General Hospital, Atami Tokoro Memorial Hospital, and Shin Niiza Shiki Central General Hospital. Total monthly reading volume is: 421 CT; 351 MR; 2,140 general X-ray; 322 fluoroscopic; and 444 mammography cases, for an approximate total of 3,700 cases. Two radiologists are staffed each day at Sai Teramedo and use the AW Server for reading medical imaging studies.

As leaders in 3D post processing and image review, TMG understood they needed a solution that would help grow their capacity, enhance radiologist productivity and streamline workflow to reduce reading turn-around times. They turned to GE Healthcare and implemented the AW server because it provides a thick/thin client application where advanced 3D post processing can be performed on a PC instead of only on a dedicated workstation.

According to Dai Kakizaki, MD, PhD, Director of Sai Teramedo, the radiologists are more productive in the remote reading center as opposed to having one or two radiologists



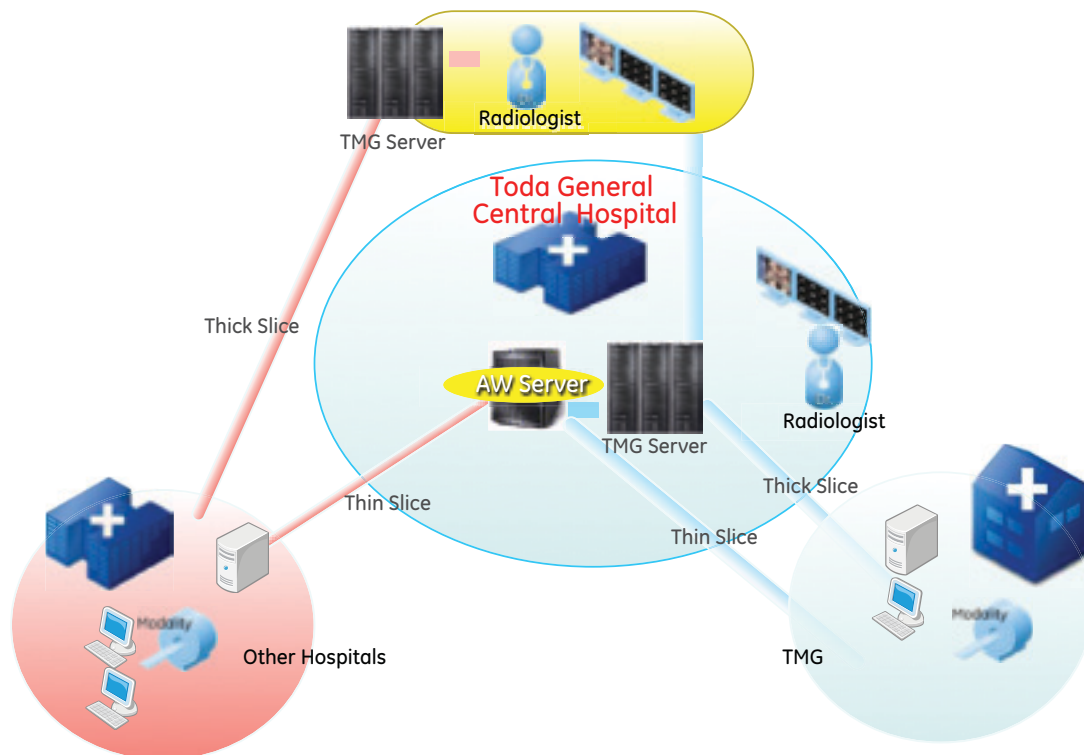
situated at each of the 15 hospitals. "If there is a large workload at one hospital, the remote reading can help with any overflow. With the centralized remote reading, we also have access to specialists and second opinions on difficult cases, when needed."

Additionally, with the new workflow driven by AW, studies can be accessed in both the remote reading center and each hospital. All thin slice data is stored on the AW server regardless of where it originated. Thick slice data from Toda Central General Hospital is stored on that hospital's PACS; all thick slice data from the other sites is stored at a second remote server.

### New workflow drives productivity

While the group expected that the implementation of the AW Server would result in new efficiencies to workflow, they didn't anticipate discovering a new model for workflow. The AW Server converts virtually any PC, laptop, or PACS desktop to a 2D, 3D, and 4D post-processing workstation. Thanks to integration with existing IT infrastructure, radiologists can share images in real time and perform all their tasks – diagnostic reading, reporting, dictation, and advanced image analysis—on a single desktop.

### Remote Reading Center "Sai · Teramedo"



Several AW client servers are located at Toda Central General Hospital: seven in the CT/MR department, five in cardiology, two each in neuro and CCU, and one each in angiography, general X-ray, RI (?), and the ICU. A 200 Mbit/sec network sends the thick slice data to the PACS server and the thin slice data to the AW server at Toda Central General Hospital.



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*Dr. Dai Kakizaki*

Implementing the AW Server has impacted productivity and efficiency. “Our radiologists are simply just more efficient,” says Dr. Kakizaki. “They aren’t waiting for the dedicated workstations to be available, or moving to different systems to complete dictation and reporting. Everything they need to analyze, view, and report a study is available on one workstation.”

The full 3D environment is also available to the technologists and clinical specialists. For specialties, such as cardiology and neurology, with the AW Server the technologist can create 3D and MPR images, prepare measurements, perform tracking, and pre-stage the case so the clinicians can go right into reading and not waste time. This is referred to as “Save State” on the AW Server. The cardiologist or neurologist can then open the “Save State” on the AW server and begin reading. For instance, they can then select the best angle from which they want to read, rotate the 3D images for a different orientation, or refine the measurements.

“With the ‘Save State’ feature, our radiologists can begin working at a more advanced state based on the technologist’s work,” says Dr. Kakizaki.

Technologist Masanobu Egawa at Toda Central General Hospital adds, “Before implementing the AW Server, 3D renderings and MPRs were made by two CT operating



consoles and two stand-alone AW workstations. Since the implementation of the AW Server, technologists are working less overtime to create 3D images. The AW Server can create 3D rendering independent of the CT console, which also enables us to continue scanning patients.” Radiologists can now view the 3D rendering and make adjustments on their PC/workstation without having to interrupt the technologist’s workflow.

The result is a more efficient reading interpretation and the ability to implement a remote reading environment that allows the group to read for multiple institutions at one location and accept overflow from hospitals. ■

**Dai Kakizaki, MD, PhD** is the Director of Sai Teramedo, a remote reading center of Toda Central Medical Group (TMG). He earned his medical degree from Tokyo Medical University, where he later served as an Associate Professor. Prior to his current position, Dr. Kakizaki was the Radiological Department Manager at Tokyo Medical University Hospital. He is a member of the Japan Radiological Society and Japan Radiological Society Radiology Specialist and a counselor of the Japanese Society of Medical Imaging.

**Toda Central Medical Group (TMG)** is associated with 25 hospitals, six welfare institutions for the elderly, a clinic, a medical care center, and a home nursing station. Over 10,000 healthcare professionals are employed by Toda Central General Hospital and TMG.