SOLUTION BRIEF
Intel® Xeon® Processor E3 Family
Healthcare
Energy, Environment and Performance

Improving Healthcare with Intel® Xeon® processor

Making Healthcare Screenings Faster and More Efficient with CareWork*, a Healthcare Workstation Based on the Intel® Xeon® Processor E3 Family

"The upgraded DEJA-VIEW system has a faster image loading speed, thus reducing the waiting time for patients, making it more convenient for them. In addition, various reading functions physicians wanted have been added to DEJA-VIEW, enabling reading results to be input easily and quickly."

Professor Jae Sung Park
Manager of the Department of Radiology, Soonchunhyang University Bucheon Hospital

CHALLENGES

- **Reducing patients' waiting time.**
  Soonchunhyang University Hospital needed a system with shorter loading time to help reduce waiting time for patients.
- **Enhance imaging system's efficiency to provide better treatment.**
  Soonchunhyang University Hospital needed an imaging system that could load large image files upon examination to thoroughly evaluate a patient's condition.

SOLUTIONS

- **Deploy CareWork.**
  Upgrade the platform to boost performance and speed up DEJA-VIEW* data imaging, without increasing maintenance and operations costs.

IMPACT

- **Up to 50 percent faster data imaging.**
  DEJA-VIEW can now load data up to 50 percent faster, drastically reducing waiting time for patients.
- **Improved imaging and video support.**
  With the deployment of cutting-edge processes, VGA, photographs and high-definition videos are now immediately taken and compressed when problems are discovered during patient examinations.
- **Reduced maintenance costs through integrated database management.**
  The legacy system had high maintenance costs because of the operation of individual PACS servers and storage. CareWork, which is equipped with Intel® Solid-State Drives (Intel® SSDs), was deployed to solve this problem. The overall speed of the system was improved and the integrated storage enabled unification, reducing maintenance costs.

About Dongeun Information Technology

Dongeun Information Technology is a company that specializes in medical IT services. Built on the operating knowledge of Soonchunhyang University Hospital, it has been a leader in the Korean medical community.

Donegun Information Technology independently developed a cutting-edge picture archiving and communication system (PACS) currently used as an aid in health screenings. But with growing demand for faster and more efficient healthcare screenings, the company needed to enhance its existing video graphics array (VGA) photography and high-definition video system, DEJA-VIEW. This PACS program, developed, by Dongeun Information Technology, is a fast, accurate, and easy-to-use solution.

This led the company to work with Intel. Equipped with Intel processor-based servers and workstations, it enhances DEJA-VIEW's performance, speeding up examinations, reducing maintenance costs, and most importantly, enabling physicians to diagnose and provide needed treatment to patients faster.

CareWork is optimized for healthcare IT solutions, strengthening healthcare imaging with its powerful performance, highly competitive price, low noise, and energy consumption as well as antibacterial properties

Improving healthcare with optimized imaging support

Over the years, imaging has been key in medical science. It enables physicians and other medical professionals to accurately analyze patient cases and arrive at a clear diagnosis.

Dongeun Information Technology specializes in this healthcare technology, providing a cutting-edge PACS to Soonchunhyang University Hospital. To enhance the way doctors look at their healthcare cases and enable them to give patients the treatments they need faster and more efficiently, Donegun Information Technology developed DEJA-VIEW. The system was effective until recently, when the demand for even faster response and imaging grew. The need to enhance and boost the performance of DEJA-VIEW called for better data storage and imaging optimization. To meet the demand, Donegun Information Technology chose a CareWork workstation, which is faster and provides a calmer working atmosphere, with a smaller size and less noise than the old system.

Soonchunhyang University urgently needed to reduce patients' long waiting time caused by the existing workstation's long loading time.

It also needed a simple decoding system that could rapidly load and store massive pictures to understand a patient's exact condition right after examination.

Solving the problem required more speed and stability, which meant a system upgrade. The company needed to collaborate with an industry leader that develops technology solutions optimized specifically for healthcare.

CareWork was developed to enhance hospital EMR/OCS/PACS. With this as DEJA-VIEW's system base, data is saved on and imported from the server, which is more efficient than the legacy system, where images shown on the screen were only loaded in the memory. With the new system, processing speed increased more than 40 percent. Readability was also 1.3 times faster by utilizing variously input reading functions such as a system in which video can be extracted in high quality formats such as JPEG2000*.

Greater performance without the extra cost

The healthcare IT market segment requires effective servers and workstations capable of handling photo and video data ranging from a few hundred to tens of thousands of patients. CareWork gave DEJA-VIEW a capacity advantage while keeping costs on budget.

The healthcare-specific CareWork workstation is based on cutting-edge processors and equipped with Intel SSDs and DDR3 memory, providing greater speed and stability. It also offers better system flexibility since it streamlines storage compared to the legacy system, where departments operated individual PACS server units and storage. CareWork also offers massive medical equipment capacity, where the previous system needed a memory upgrade. The high-end performance and memory optimization of the new system both help pay for the cost of upgrading to the new system.

The expansion was fuss-free and cost-efficient, with hardware that is easy to maintain competitively priced.

Now Dongeun Information Technology hopes to work toward establishing the company as system integrator specializing in integrating hospital medical information systems. They also plan to continue developing healthcare IT solutions to make healthcare more efficient for both physicians and patients.

Current CareWork Specifications Table for Soonchunhyang University Bucheon Hospital

	DEJA-VIEW PACS System HOW2-4101
CPU	Intel® Xeon® processor E3-1230V2 (8M Cache, 3.30 GHz)
Chipset	Intel® Z77 Express Chipset
Case	CareWork Quiet Tower* system
1st Storage	Intel® Solid-State Drive 330 series 60GB
2nd Storage	SATA3 500GB 7200RPM
Memory	DDR3 2G PC3-12800 x 2ea
Graphics	GeForce* GT 520 1GB

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