

Tokushima University Hospital Employs Cisco for Its Network Infrastructure of Hospital-wide Information System

Securing patients' personal information by network security

Cisco Systems K.K. (President: Yasuki Kurosawa, address: Akasaka, Minato-ku, Tokyo) announced that Tokushima University Hospital (Director: Susumu Kagawa, address: Tokushima-shi, Tokushima, "Tokushima University Hospital") employed Cisco's products in establishing the network infrastructure for HIS (Hospital Information System).

Tokushima University Hospital is a large-scale medical center with 25 specialties in the medical department, 4 specialties in the dental department, and 31 central medical facilities, serving as a local core medical institution. Not only is it well-received locally, but it is also widely acclaimed by specialists. It was selected as the fourth best hospital in the nation in the ranking of most recommended hospitals based on the survey from 3465 medical practitioners. This hospital has been making efforts in informatization such as obtaining the Privacy Mark for the first time as a university hospital and computerizing clinical charts.

Generally, personal information that hospitals deal with includes highly sensitive data such as medical records. If it is exposed, it would not only be a trust problem and an issue about enormous compensation, but it would also affect patients' life. The traditional medical system had a security problem since it was independently established in each segment without hospital-wide control and integration. Tokushima University Hospital started to establish a secure electronic medical chart system in the whole hospital, not by each segment, since the latter half of 2003, and the system went into operation at all the clinical departments excluding three outpatients in January 2007.

In implementing electronic medical charts, Tokushima University Hospital began by reorganizing the entire network and modifying the organization in order to develop the high-speed communication infrastructure. The hospital required "human readability" which is attained by constant operation which allows handling of patients' personal information 24/7, "potential for authentication" to prevent exposure of personal information and falsification of medical charts, and "persistence" for secure storage of data. In order to meet all those needs in an appropriate manner, they asked Cisco to build the network.

For the established network, "Cisco Catalyst 6506" is used as a core switch. "Cisco Catalyst 4507" is used as a server consolidation switch, and "Cisco Catalyst 4948" and "Cisco Catalyst 3750" are used as distribution switches. Secure authentication is made possible by the implementation of "Cisco Secure Access Control Server (ACS) for Windows," which is combined with "Cisco Security Agent," installed in the pen tablet PCs to use electronic medical charts in order to exclude network connection by terminals on which the agent is not installed. Besides, a wireless access point "Cisco Aironet" is implemented to realize a wireless environment for PDA which is used to give appropriate medication to patients.

After reconstructing the network, Tokushima University Hospital collected a survey from doctors who are the main users of the system. With a high response rate, the hospital obtained an evaluation that a majority of them were satisfied with the usability and response of applications.

The security was improved significantly and only reliably controlled and authenticated terminals can enter the network. Therefore, the risk of internal virus infection declined dramatically. In addition, the data entered at consultation rooms are sent to the dispensing department and payment department at once, and the time between examinations to payments was significantly shortened.

In the future, they will further utilize the reestablished network, and promote the environment that doctors can concentrate on examinations so that they can offer more helpful and advanced services to patients.


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