National Health Security Office

INDUSTRY  Government and Healthcare

SOLUTION  Enterprise Platform, Virtualization

Hardware — Hitachi Virtual Storage Platform
Software — Hitachi Base Operating System V, Hitachi In-System Replication bundle
Services — Provided by Hitachi TrueNorth™ Partner MFEC

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Dr. Yolsilp Suchonwanich
Director, Bureau of Insurance Information Technology
National Health Security Office
Thailand’s National Health Security Office Supports Enormous Data Volume and Transaction Rates with Hitachi Enterprise Storage

The National Health Security Office (NHSO) is a government organization established under the National Health Security Act of 2002 and drawn up under the supervision of Thailand’s Minister of Public Health. The office’s mission is the efficient management of the national health and security fund and the development of the public healthcare system. This includes administering a fund worth over 100 billion baht and managing up to 150TB of data. To support these activities, NHSO chose a solution built on Hitachi Virtual Storage Platform.

NHSO works to ensure people have access to a standard quality of service and a health insurance system that the public can approach with confidence, as well as service providers who are happy. Approximately 48 million Thais nationwide have the right to health insurance. This reflects 150 million transactions a year for outpatients, or approximately 3 transactions per person, per year; for inpatients, this totals about 5 to 5.5 million transactions per year. Thus, NHSO needs an efficient information management and data processing system. It must be able to reimburse healthcare service providers accurately and quickly.

A Huge Amount of Data

Director, Bureau of Insurance Information Technology of NHSO, Dr. Yolsilp Suchonwanich explains that in addition to the massive amount of data generated by outpatients and inpatients, NHSO must also support other specific civil registration transactions. It must manage information about specific diseases, deaths and verifications of rights to social security and public service. “We have a huge amount of data,” he says. “So our calculations are pretty complex, and there would also be the administration of internal funds, which is based on data about health services provided.”

Data management by NHSO falls into 3 categories:

- Operations, providing support for front office administration, which is the rapid data processing to support payments on a day-to-day basis
- Data that is delivered to management for decision making
- Data that is stored in the data warehouse

Data in the first category is very significant as it represents the core business. This is mainly the data processing function that supports the day-to-day operations of the payment system. Thus, the storage must be stable, scalable, of high capacity and environmentally friendly.

Dr. Yolsilp recalls, “We found that the old storage that served our core business had efficiency problems because of its small size and insufficient capacity; moreover, there had been a problem with data synchronization between the head office and disaster recovery sites, which had a high I/O. Therefore, we decided to change to new storage.”

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Reliability, Scalability and Capacity

“The new storage required by NHSO for data processing, its core business, must be stable, scalable, flexible, of high capacity, and must save energy. After consideration, NHSO chose Hitachi Virtual Storage Platform,” Dr. Yolsilp says.

“We selected Hitachi VSP after testing the system beforehand in a simulation, which provided very good performance in terms of the I/O. Once we used the system, the outcome was very impressive in terms of data transfer; there is no downtime when transferring from the old system to the VSP, compared to [instances] in the past when data transfers always faced downtime problems and were very complicated. The results we received were even better than when we had evaluated the system,” explains Dr. Yolsilp.

In addition to VSP, Hitachi Base Operating System V (BOS V) was key to the project’s success. BOS V helped NHSO to improve return on investment and expand return on assets by consolidating storage and storage management points.

In the Future: Cloud, Joint Ventures

NHSO has a plan to integrate its core business with the disaster recovery site in order to keep all data there rather than just a portion of it. It is also going to implement a private cloud system within the organization to help manage how much each division needs to use the IT system. In terms of its large database, it also plans to enter into joint ventures with other government agencies to deploy information in the NHSO database for maximum mutual benefit, which will enable the Citizen Health Profile to be effectively used.