

Virtualization Foundations for Big Data Analysis



EXECUTIVE SUMMARY

Customer Name: Tesshokai Kameda General Hospital

Industry: Medical

Location: Chiba, Japan

Number of Employees: 3,276

Business Challenge

- Data is scattered, difficult to obtain or analyze quickly
- Difficulties integrating data at infrastructural level (data warehouses, extract, transform, and load)
- Creating a big data analysis foundation

Solution

- Enabled operation of virtually scattered data as 1 location
- Enabled acquisition of data in near real time and its use in analyses and reports

Business Results

- System used and improved in operations as common data foundation for entire group

Creating a shared data foundation that can respond to any kind of request with data virtualization solutions.

Business Challenge

Tesshokai Kameda General Hospital in Kamogawa-shi, Chiba consists of Kameda Clinic, Kameda Rehabilitation Hospital, and Kameda Medical Center. The organization has a significant presence in advanced professional medical treatment and at-home medical treatment. In addition, it plays an important role in revitalizing the local economy and improving area value as a medical treatment hub for a region with an aging population. It has 992 beds and handles approximately 3000 outpatients per day.

Kameda General Hospital is known for advancing medical services through its pioneering use of information and communication technology (ICT) in this field. For example, it has taken numerous innovative initiatives, such as its unique electronic medical chart system (since 1995), bedside information terminals (since 2005), the creation of a Kamogawa area Wi-Fi environment (since 2016), and the formulation of Internet of Things (IoT) basic policy to improve operational safety. It is currently constructing a new medical support system to be used across the entire group, as well as the AoLani project (AoLani is Hawaiian for pleasant clouds against the blue sky). The project aims to create a foundation that supports the collection of local residents' medical records for treatment and nursing needs.

The objective of the hospital is to create an environment whereby the analysis and usage of in-hospital data, including medical care and management data, to improve operational efficiency and the quality of medical service. However, in-hospital data is stored in different formats in "silored" database systems in many departments. It is difficult to obtain data quickly and often difficult to determine data accuracy. As big data analysis is needed in the future, managing data in an integrated fashion and creating an ICT foundation used by all departments have been issues for a long time. Data visualization has gained attention as a solution to these problems.

“Connecting and virtualizing all sorts of data and promoting its usage has great significance. This solution allows us to quickly and accurately aggregate data for better medical services.”

Atsushi Chugo

CIO and Information Strategy Director,
Tesshokai

Network Solution

“In the course of operations all these years as a hospital, we have collected a lot data from every aspect of the hospital, and they came in different formats and are stored in various locations. This is extremely inefficient,” says Techokai chief information officer (CIO), Chugo Atsushi. “On top of this, some departments embarked on their own data analytics projects based on incomplete data and using their experience and intuition to analyze the data.”

“I remembered Cisco shared with me regarding their Data Virtualization solution during our campuswide Wi-Fi project. Our IT aspirations coupled with the fact that they have such a solution, it was a catalyst for me to work with Cisco to make sense of the data that we have.” Another big reason the project could progress immediately was that, within the hospital, they were able to set up a data science team comprised of professionals from various fields, such as data warehouses and statistics. “This is similar to how we started the electronic medical chart project. We invest in IT projects even if they may be 20 years ahead of our peers to improve medical care for our patients. Our hospital fundamental policy is to use technology in the field first and make improvements while using it,” says Atsushi.

On the decision to use Cisco® Data Virtualization solution, Ryoji Ohta of the Tesshokai Information Strategy Division says, “Our assessment was that the software’s quality was excellent. It is also backed by many used cases and best practices that are useful and reassuring to us. We also considered proposals from other companies, but Cisco’s solution best suited our requirements. In addition, the business directory tool was a huge deciding factor. This tool, which allows data types, definitions, and content to be viewed as a list, is very important for the users and highlights the strength of Cisco solution.”

The Cisco data virtualization solution is software based on the Cisco Information Server. Various forms of data in networks from all locations, regardless of whether they are on-premises or in the cloud, can be treated as if they were in one location. At Kameda General Hospital, test operations are ongoing with the goal of actualizing the next-generation big data analysis foundation, Ohta added that the amount of time required to obtain the data needed can be greatly reduced with Data Virtualization.

“We had the tools for analysis and reports, but confirming the whereabouts of the correct data and data acquisition took a lot of time. With the Cisco solution, data can be acquired in a few minutes in the future, so I believe it will be possible to generate reports using data in almost real time. We want to create a foundation that can deal with any kind of requests and most of all, connect all of the data in Tesshokai’s possession.”

Business Results

Tesshokai Information Strategy Division Leader, Nobuko Sugita, explains how this solution will benefit the division: “There have been many cases in which the interpretations of the same words were different depending on the department. If the data users or targets, analysis policies, and so forth are clearly determined, you can just obtain the necessary data and aggregate it. Retaining all the data in the system is really important, so Cisco solutions are really helpful with using data smoothly.”

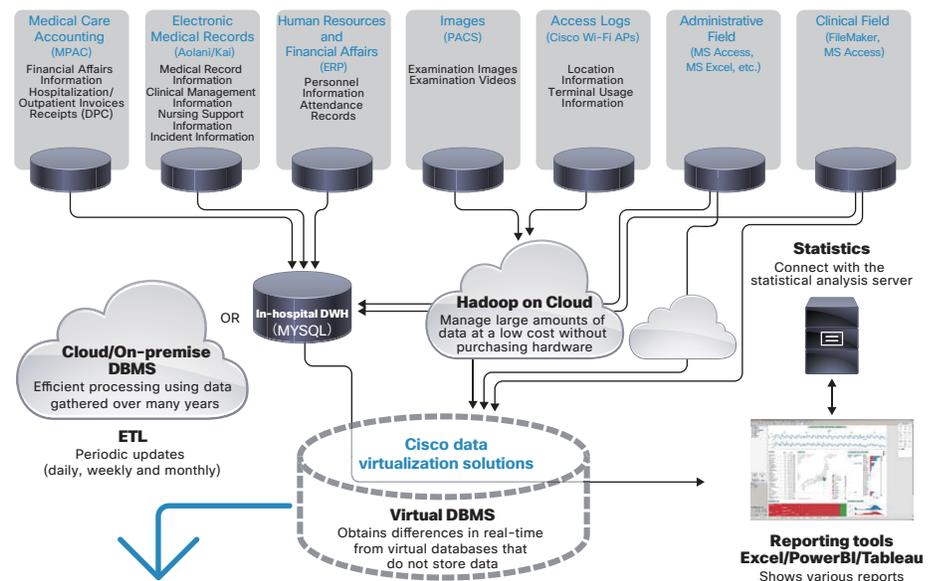
Yohei Banba, of the Tesshokai Information Strategy Division, says that determining the correct interpretation of data will be very important in the future: “We have created a foundation using Data Virtualization. This will enable us to draw the right

data for the right area, and this will improve the integrity of the data and the governance of how the data can be used.

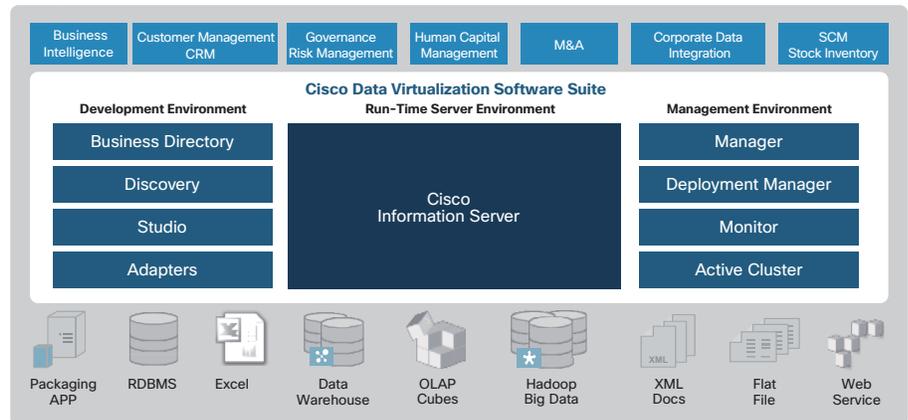
Embarking on the project, Kameda General Hospital engaged the experts from Cisco advanced services to implement the Cisco data virtualization solutions. Ohta highly commended the Cisco service team for their advanced technological capabilities, and response speed.

“The synergy between the Cisco sales team and its implementation team is great. The competence of the team gives me great assurance, and I am at ease with them handling the project. Whenever I stopped to ask them a technical question, they are able to respond to me quickly and confidently. I also receive great support from the engineers from their headquarters, in implementing this project. I felt that this project is very well taken care of because I do not just get local support, I also get the support on a global level.”

Configuration Image of Tesshokai Next Generation Big Data Analysis Foundation Kameda Data Lake on Cloud



Configuration Cisco Data virtualization solution



Next Steps

Bed control support for hospitalized patients and data searches to create physicians' articles have been predicted as examples of future application. In the future, the organization aims to further improve medical services and operational efficiency using the next-generation big data analysis foundation.

PRODUCT LIST

- Cisco Data Virtualization Solution
- Cisco Advanced Services

For More Information

Learn more about the Cisco Data Virtualization solutions, visit

<http://www.cisco.com/c/en/us/services/enterprise-it-services/data-virtualization.html>.



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