Business challenge

One of Japan's leading retail conglomerates, Valor Holdings, decided to launch its own membership card scheme, necessitating a more powerful data platform to process and track consumer purchases.

Transformation

After considering various solutions including Amazon Redshift, Valor Holdings chose to adopt IBM Db2 Warehouse on Cloud (MPP Small), and run it on AWS. The company moved a database of over 10 billion customer transactions into the cloud, gaining a robust and well-supported data platform.

Business benefits:

Centralizes
complex data on customer spending from across the entire retail network

90%
reduction in reporting time on sales data for all stores nationwide

Robust
sales analytics helps to drive customer engagement, both online and in-store

Valor Holdings

Achieves dramatically improved performance by migrating all sales data and analysis to IBM Db2 Warehouse on Cloud

Valor Holdings is one of Japan's leading retail chains. In addition to its core supermarket business, it also operates numerous home centers, drug stores, and sports clubs. Based on the management philosophy of "Creation, Preemption, Challenge," it aims to build a business model as a "manufacturing retailer" that consistently carries through from manufacturing to distribution and sales.

"In the past, generating and distributing weekly reports to our buyers and store managers could take anywhere between 20 and 30 minutes; the new system takes between two and three minutes, or just one tenth of the time."

Soichiro Yoshio
Manager of the Information Systems
Department
Valor Holdings

Share this

Maintaining a retail empire

Valor Holdings owns several stores including supermarkets, home centers, drug stores, pet shops, and others, mainly in the Tokai and Hokuriku regions of Japan. The company has built its own business model as a "manufacturing retailer", and is steadily expanding: as of September 30, 2017, its retail network contains 778 stores.

The company operates in a challenging environment for retailers. Consumer spending in Japan is on a downward trajectory, the country faces a declining birthrate and aging population, and Valor Holdings is also exposed to intense competition from rival stores.

To counteract these threats, Valor Holdings decided to introduce its own prepaid payment and membership card, known as the Lu Vit Card. The card can be used across Valor Holdings' entire retail network, and allows customers to collect loyalty points at the point of sale. Using Valor Holdings' proprietary mobile app, registered members can then exchange their Lu Vit points for an electronic currency that can be used in Valor Holdings' online stores.

One upshot of the Lu Vit scheme is the collection of sales history data, which can be linked with the purchasing behavior of individual customers in order to better target them with special offers—enabling a new level of personalization in the shopping experience.

Soichiro Yoshio, Manager of the Information Systems Department at Valor Holdings, said: "In the past, when we collected sales history data, we could only analyze each transaction in terms of the store, the product, and the time of sale.

"We wanted to be able to carry out more detailed analysis, by cross-referencing the transaction data with anonymized customer data—for example, using the ID of the Lu Vit Card to segment purchases by customers' age, sex, location and other attributes."

However, the company faced a barrier to implementing this plan. Its existing data center infrastructure was going out of support, and the company was struggling with a noticeable deterioration in the performance of its legacy hardware. Valor Holdings decided that it needed a new, shared, company-wide IT infrastructure, and began looking for new cloud solutions.

A stable solution

Valor Holdings decided to build a new data warehouse in the Cloud running on Amazon Web Services (AWS). Some companies on AWS have chosen Amazon's Redshift option as their data warehouse platform, but after extensive and detailed evaluation of the options, Valor Holdings selected IBM Db2 Warehouse on Cloud as the superior data warehouse for its needs.

Soichiro Yoshio explains: "What really attracted us to the IBM solution was the level of support IBM offered. If you have any trouble with most cloud data warehouse services, you basically have to take responsibility into your own hands, whereas IBM will support IBM Db2 Warehouse on Cloud 24 hours a day, 365 days a year. It was encouraging to know we could rely on the IBM team's help if we needed it."

Another decisive factor was the speed of data retrieval and aggregation the IBM solution offered. The company's existing IBM PureData System for Analytics platform had already collected data on over 10 billion sales over the past five to six years, a figure that swells to 80 billion transactions when wholesale and logistics operations are taken into account.

In addition, Valor Holdings' drug stores had already launched their own membership card scheme, and had a host of existing data that would need to be integrated into the new platform. Valor Holdings needed to preserve and transfer all of this data to the new IBM Db2 Warehouse on Cloud environment in a swift and secure manner.

With IBM's help, the company migrated some of this existing data to IBM Db2 Warehouse on Cloud, and was able to confirm that the new environment's performance was acceptable.

Soichiro Yoshio elaborates: "Compared to other solutions that generate a lot of disk I/O for cloud storage, IBM Db2 Warehouse on Cloud handles data in-memory, and responds quite quickly. We felt that IBM Db2 Warehouse on Cloud demonstrated high performance across a variety of data analyses, which gave us the confidence we needed to make a long-term investment in the technology."

Purchasing power

Valor Holdings has now signed an official agreement with IBM, and has moved the IBM Db2 Warehouse on Cloud environment into production. The migration of its existing data from IBM PureData System for Analytics took place over a period of ten months, and Valor Holdings was able to set up new data marts for each of its retail businesses, including supermarkets, home centers and drug stores.

The early results have been extremely encouraging. "The information system department collects sales data for the previous week every Monday," says Soichiro Yoshio. "It then distributes reports to the buyers and store managers of each individual store. With our previous system, this process could take anywhere between 20 and 30 minutes; the new system takes between two and three minutes, or just one tenth of the time. The contents of these data analysis reports are very similar to what we saw before we made the transition, but the IBM solution has accelerated the process greatly."

The introduction of the Lu Vit Cards is progressing steadily across Valor Holdings' retail network. "The usage rate of our customers is still only about 10 percent," says Soichiro Yoshio. "But we expect new data to accumulate as uptake increases. We have a lot more to learn about our customers' preferences and spending habits, and how we can better tailor our services to cater to them. Some of our research questions also require analysis through intuitive data visualizations, with maps and charts, as tabular data summaries are not sufficient. For example, to what extent do events such as bargain sales or promotions for newly-opened stores attract customers?"

The new Lu Vit Cards also offer a way for Valor Holdings to monitor the purchases of consumers across its entire retail network more effectively. Several Valor Holdings stores operate in close proximity to each other, and there may even be multiple outlets within the same shopping mall.

With IBM Db2 Warehouse on Cloud, Valor Holdings can more easily track the purchases made with the same Lu Vit Card over a certain amount of time—and has found that understanding the order in which items are purchased can provide as much useful insight as analyzing the purchases themselves.

Valor Holdings is also highly interested in an automated approach to data analysis that applies AI and machine learning methods. "On top of IBM Db2 Warehouse on Cloud, we have been exploring the use of various applications and services such as the IBM Watson APIs," says Soichiro Yoshio. "We also think there is enormous potential in considering the use of a multi-cloud setup in the future. As a retailer, our future to a large extent depends on our willingness to adopt new technologies, and IBM has been enormously helpful in helping us realize the potential of these new solutions."

"As a retailer, our future to a large extent depends on our willingness to adopt new technologies, and IBM has been enormously helpful in helping us realize the potential of these new solutions."

Soichiro Yoshio, Manager of the Information Systems Department, Valor Holdings