

Nongfu Spring has a positive first experience with SAP HANA 1.0



“By cooperating with HP on SAP HANA 1.0, we’ve proved that a high-speed in-memory computing column-storage database product is reliable and practical. It has fundamentally solved the problem of slow computing and presentation of data. It also built a solid foundation for our IT department to provide strong support for the company’s rapid future business development.”

—Patrick Hoo, CIO, Nongfu Spring

HP customer case study
Nongfu Spring works with HP to set up new SAP HANA 1.0 database

Industry
Fast-moving Consumer Goods (FMCG)

Objective

Improve the overall IT system service level, allocate resources flexibly, and perform real-time sales analysis

Approach

Compared and tested the Oracle database and SAP HANA 1.0, before opting for the latter

IT improvements

- Increased computing speeds means data is now analysed 200-300 times faster than previous database platform; financial reporting times have reduced from seven to three days
- Enhanced system performance removes maintenance and data lag problems, meaning the entire manufacturing environment now runs more smoothly with more accurate data

Business benefits

- Improved visibility of real-time data, allowing the business to make decisions in a timelier and more rational manner



There can only be a few in China who are unfamiliar with the “Nongfu Spring Has a Little Sweetness” slogan. As a national consumer brand, Nongfu Spring has annual sales approaching RMB10 billion. It owns seven production bases, dozens of factories, more than 300 offices, and claims more than one million customers. Its scope of operation involves production, sales, planning, dispatching, logistics and marketing. Understandably, the requirements for integrated management and the overall operational ability of the company are very high.



At the same time, the company's senior management needs real-time, accurate data to make accurate judgements of the ever-changing marketplace.

In 2004, Nongfu Spring began using the SAP ERP system for customer relationship and sales management. In 2008, with data volumes increasing, it separated the online analytical processing (OLAP) system from the original system, and ran it independently. However, with the expansion of the company's business and the constant additions of new branches in different cities, levels of data continued to increase. One distribution list had more than 100 million records, increasing at a rate of 40-50 million records per year, as Nongfu Spring added mobile terminal data.

At that point, the total data volume had exceeded 3TB, and the OLAP data presentation was becoming increasingly slow.

For example, the system took about 24 hours to calculate transport costs. In addition, when the finance department closed its accounts at the end of the month, the system was so slow in generating an inventory report that the warehouse was unable to make deliveries.

In addition, when using the traditional database model, some reports took 30 minutes to be presented. Worse, Nongfu Spring had more than 400 cost centres and each calculation took 24 hours. For this reason, the monthly financial closing could be delayed by up to one day.

Using the traditional ETL (data extraction, transfer, loading) method, Nongfu Spring's analysis system could update its data only once a day. As a fast-moving consumer goods business, Nongfu Spring wanted to be able to see the data changes in real-time – and make decisions based on those changes.

In view of this series of problems, Nongfu Spring resolved to build a new database system platform. After comparing and testing the Oracle database and SAP HANA 1.0, it opted for the latter. As one of the three SAP HANA 1.0 certified hardware manufacturers in the world, HP won the approval of Nongfu Spring with the stable, powerful performance of its HP ProLiant DL980 server, and the professional services of the HP team.

HP AppSystems for SAP HANA

SAP HANA 1.0 is an in-memory computing based business intelligence solution introduced by SAP in 2011. Compared to solutions based on ordinary data warehouses, its biggest difference is its ability to perform all data computing in the internal memory. As such, it brings evident improvement in overall performance. This is what is most important to Nongfu Spring.

As the third only company in the world (and the first in China) to use the SAP HANA 1.0 system, Nongfu Spring chose the combination of SAP HANA 1.0, and an HP ProLiant DL980 server configuration from the HP AppSystems for SAP HANA portfolio to build a brand new SAP HANA 1.0 database system.



Nongfu Spring's IT department spent less than two months between 27 June and 20 August 2011 completing the switchover and getting the database online. In the first phase, it removed only the links from the Oracle data mart to the Business Objects (BO) and, through data service, extracted the data in the data mart and sent it to SAP HANA 1.0 to be displayed on the portal through B04. This process solved two problems: (1) data is presented quickly, and (2) some logic calculations are done in SAP HANA 1.0, thus the problem of some logic calculations being restricted in traditional databases ceased to exist.

This way, Nongfu Spring was able to perform data computing much faster. However, there was still no real-time data analysis. As such, in the second phase, Nongfu Spring extended the structure. It replaced its traditional data mart with SAP HANA 1.0 and used it as the database of its analysis system. This solved the problem of not being able to perform real-time data update and analysis. SAP HANA 1.0 supports only certified products from HP, IBM and Fujitsu. As HP had devised five special server configuration solutions (x-small, small, medium, medium+ and large) after the introduction of SAP HANA 1.0 by SAP, Nongfu Spring selected HP's medium+ configuration as the hardware platform. This decision was based both on the scale of its business and its input-output ratio, and their positive long-term relationship with HP. The company also chose the HP ProLiant DL980 server with four high-performance CPUs and 512GB internal memory for the SAP HANA 1.0 hardware platform.

The HP ProLiant DL980 server has very powerful scale-up capabilities. Even with higher business volume in the future, Nongfu Spring will be able to scale up to the large configuration. At the same time, as a high-end x86 server, DL980 also uses HP's unique PREMA structure that comes with smart CPU caching and redundant system fabric, giving it significantly higher performance. In addition, with DL980 being an eight-socket server for mission-critical operations, HP has, to a considerable extent, provided both the manageability and recoverability of a small computer. If the machine malfunctions, it is able to locate and repair the fault quickly.

At the same time, HP has also added the Linux operating system to the DL980 server to give Nongfu Spring unparalleled system security and operability. The Linux operating system is able to integrate well with SAP HANA 1.0. Of note, the DL980 can be configured with an input/output (I/O) acceleration card independently, to load the data inside the hard disk faster into the internal memory and significantly expand the I/O bus width between the hard disk and internal memory. These characteristics make HP ProLiant DL980 very suitable for large databases such as SAP HANA 1.0, as well as virtualisation and applications.

Faster operations, strong support for corporate decision-making

By getting rid of the traditional IT operation, maintenance and data lag problems, the entire manufacturing environment now runs more smoothly. Based on Nongfu Spring testing, the same report returns 200-300 times faster with SAP HANA 1.0, as compared to a traditional database platform. As the following examples highlight: SQL takes only 2.113 seconds to write to the SAP HANA 1.0 platform, but it needs 215.063 seconds on a traditional database platform. On the other hand, SAP HANA 1.0 needs only 37 seconds to execute the storage process and function that takes a traditional database platform 24 hours to execute. Thus, SAP HANA 1.0 helps Nongfu Spring cut down the time spent on the reconciliation process by one full day.

After SAP HANA 1.0 went online, problems such as the slow presentation of OLAP that had plagued Nongfu Spring previously were completely resolved. At the same time, financial reporting became significantly faster. Previously, for the company's financial statements, there would be a gap of seven days between the account closing at the end of every month, and the generation of data to do calculation and analysis. Now, with the SAP HANA 1.0 system, financial data can be generated in less than three days. Nongfu Spring is now able to see its business performance and that of its competitors instantly, in turn allowing the company to be able to make decisions in a timelier and more rational manner.

"The market today is changing constantly, and companies and the market environment have more new IT requirements," says Nongfu Spring CIO Patrick Hoo. "HP is doing its best to help us make informed decisions about our IT requirements in terms of software, hardware and services. By cooperating with HP on SAP HANA 1.0, we have proven that HANA is a high-speed in-memory computing column-storage database product that is mature and practical. It fundamentally solved the problem of slow computing and presentation of data caused by having too much data, which had affected our business. It also built a solid foundation for our IT department to provide strong support for the company's rapid future business development."

Customer solution at a glance

Primary applications

- SAP HANA 1.0 SP3
- SUSE Linux Enterprise Server 11 SP2

Primary hardware

- HP ProLiant DL980 configuration from the portfolio of HP AppSystems for SAP HANA

For more information

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