Hewlett Packard Enterprise

Objective
Find a fully supported platform for SAP HANA

Approach
Conducted stringent Proof-of-Concept testing

IT Matters
- Enables true memory utilization to release full potential of SAP HANA
- Provides more agile architecture for faster access to production data
- Gives access to Center of Excellence for swift fault remedies

Business matters
- Reduces accounting checkout times from seven days to just one day
- Delivers close to real-time order cost and profit analysis
- Speeds up decision making of vtop executives

Motech achieves high-speed in-memory computing and high availability

HPE ConvergedSystem 500 for SAP HANA® delivers threefold increases in transaction speeds

Following a merger, Motech needed a new platform to support its SAP HANA in-memory computing. After conducting stringent Proof-of-Concept (POC) tests, this Taiwanese solar giant decided that the HPE ConvergedSystem 500 for SAP HANA Appliance was the best solution. Fast access to vital data now speeds up the decision making of top executives.

Challenge

New SAP landscape following merger
In this digital age, the Internet, mobility and cloud computing are so closely intertwined that the pace of innovation for modern enterprises must be faster than ever before.

As a company committed to developing and manufacturing high-quality products and services related to solar silicon wafers, solar cells, solar panels and solar power systems, Motech Industries, Inc. merged with the silicon solar cell manufacturer Topcell Solar International Co., Ltd. in 2014 to become Taiwan's and, indeed, the world's largest manufacturer of solar cells. Following the merger, Motech was faced with the challenging task of simultaneously upgrading software and hardware while integrating Enterprise Resource Planning (ERP) systems across the production bases in order to benefit from latest technology.

> "To date, the HPE system has been operating smoothly and without any problems. At the same time, with the HPE ConvergedSystem 500 for SAP HANA equipment, the transaction speed of the operation and analysis of the SAP ERP system is now three times that of the previous host system."

— Chen Tien-Fa, head of IT department, Motech Industries, Inc.

"With the application and development of big data, memory computing has become an inevitable trend. Therefore, when considering the transformation and upgrading of the ERP hardware and software environment, Motech needed a one-off solution," says Chen Tian-Fa, head of IT department, Motech Industries. "The selected technical solution should not only fulfil the requirements of the existing operational features and help enhance the quality and speed of the operational analysis and decision-making of our high-level executives, but should also be able to protect investment and expansion requirements in the future."

During Motech's ERP system reform, trends in advanced technologies affected the choice of software, and hence its associated response to the selection of hardware equipment. On the one hand, modern memory computing technology has been successfully extended with innovations such as the SAP HANA memory computing architecture.

Motech's production bases located in the Tainan Science Park and Kunshan on mainland China both initially used an ERP system developed by a domestic brand and Topcell used a SAP ERP system. The merged company decided to replace these with a SAP HANA in-memory computing architecture.

With the choice of software confirmed, the choice of host system had to be a SAP HANA hardware platform that was authorized by SAP. What Motech needed was an operation-critical server designed specifically for the SAP HANA architecture that could deliver significant memory computing efficiency. This server not only had to achieve the functional objectives related to ERP and business decision-making, such as significantly reducing the closing time of group accounts and rapidly compiling analysis reports, but it also had to ensure high availability. No matter what kind of man-made or natural disaster occurred, the server had to be able to automatically switch all the operations (from receiving orders and production to shipping) to backup systems.

Solution

Platform for in-memory computing

Motech adopted a Proof-of-Concept (POC) approach and requested the existing server vendor, Hewlett Packard Enterprise and a third vendor to build a SAP HANA architecture test environment based on its SAP ERP operational requirements. It also made a special request to include high availability test conditions.

As well as installing the HPE ConvergedSystem 500 for SAP HANA Appliance at the production base in Tainan Science Park, HPE also connected with its Singapore engineers via video conference to simulate all POC requests on-site.

"Looking at the speed, depth and completeness of the answers by the HPE SAP HANA experts to Motech's questions, we were able to confirm that HPE professional engineers were better than the rest of the industry in terms of technical capabilities," says Chen.

During the POC process, Motech conducted the most complex report-output tests, such as cost analysis reports. The HPE ConvergedSystem 500 for SAP HANA equipment provided high-performance operations and outputted reporting in the fastest possible manner. HPE Serviceguard Extension for HANA high availability and disaster recovery was also able to meet Motech's strict requirements for high availability.

"Hewlett Packard Enterprise provided a complete SAP HANA platform solution with many examples and experiences of deployment and application at home and abroad, and has the capability of providing SAP HANA support and consultancy services in Taiwan. This makes us confident that we can easily and quickly resolve the issues and needs of import and subsequent operations," adds Chen.

In 2015, Motech launched a new version of the SAP ERP software in two phases at its solar cell production bases (which account for nearly 80-90% of the Group's turnover). It also used HPE ConvergedSystem 500 for SAP HANA Appliance to support SAP HANA's database server and an x86 system HPE ProLiant DL380 Gen9 server to serve as an application server for SAP HANA. This was combined with HPE Serviceguard Extension for HANA to build a solid foundation for disaster recovery.

Motech implemented SAP ERP at the production bases in Tainan Science Park and in Kunshan; established a disaster recovery environment for the entire SAP ERP system, and completed the off-site backup settings. The entire configuration was pre-configured according to Motech's environment and requirements before delivery. All software was updated to the latest version, and shipped to Motech for some simple adjustments before final installation.

In addition, the HPE SAP HANA Center of Excellence (CoE) formed by the HPE SAP solution expert team provided a unique SAP HANA architecture for hardware and software support, enabling Motech's deployment processes to be smoother and subsequent operations to be more robust.

Customer at a glance

Applications
SAP HANA

Hardware
- HPE ConvergedSystem 500 for SAP HANA Appliance
- HPE ProLiant DL380 Gen9 server

Software
- HPE Serviceguard Extension for HANA

"With my many years of experience and observations working with a number of international IT companies, I believe that HPE engineers are the best in terms of technical capabilities."

— Chen Tien-Fa, head of IT department, Motech Industries, Inc.

Benefit

Increase in speed and efficiency

Through connection with the HPE SAP HANA CoE, Motech lets the CoE continue to collect the operation log files of its system for analysis. In the event of any fault, the exact kind of hardware or software issue can immediately be diagnosed, and Motech's IT department as well as HPE engineers will also be notified so that they can quickly provide troubleshooting solutions and assistance.

Today, at the branch offices where the SAP ERP system has been deployed, the checkout time has been reduced from seven days to just one day. Together with the accounting information of other smaller scale subsidiaries without any SAP ERP systems, the system allows the entire Motech group to complete the checkout in three days. Close to real-time order cost analysis and profit analysis report output efficiency will help speed up the decision-making of high-level executives.

The reason for this reliable and significant efficiency improvement is that unlike the usual practice of adding SAP HANA functionality on an x86 host, the HPE ConvergedSystem 500 for SAP HANA Appliance is designed specifically for scalable SAP HANA workloads for optimization. It is the industry's only infrastructure solution for converged requirements, thereby enabling true memory utilization and the rapid realization of the full potential of the SAP HANA environment.

"The combination of HPE and SAP ERP's memory computing technology gives us a better and more agile database architecture that enables faster access to production data such as the base prices for material purchases, price chains and other information, all of which make it easier for Motech's executives to prepare for the future. This is something that the old ERP system could not achieve," says Chen.

With the HPE Serviceguard Extension for HANA solution Motech continually monitors the availability of critical resources and applications. In addition to reducing the need for manual intervention and downtime during planned or unexpected failures in critical HANA databases, in the event of a fault, critical application fault-tolerance can also be automatically transferred to the security nodes at Motech's fifth plant in the Tainan Science Park and normal operations can be resumed in just four seconds.

Chen concludes: "The HPE ConvergedSystem 500 for SAP HANA system is our reliable core system and the workflows of the new SAP ERP system are more rigorous, more integrated and reliable."

These benefits have created a more solid and reliable basis for the realization of Motech's vision to integrate its global production bases and the industry chain to become a clean energy industry leader.

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