

Lenovo

Geared up for global growth with streamlined supply chain operations

Supply chain management is something all businesses need to get right if they want to be successful. That's why Lenovo teamed up with SAP to replace inefficient legacy systems with an all-new supply chain management platform running on SAP HANA – enabling near real-time reporting and massive performance gains.

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Already established as one of the world's largest PC vendors, Lenovo's expansion into enterprise systems and mobile phones marked the beginning of a new chapter in the company's history. This expansion represented a huge opportunity for growth – and a huge opportunity to optimize operations because while exciting, this business growth presented several challenges.

Crystine Wang, Staff IT Engineer, Integrated Technology Service, Lenovo, elaborates: “The fact that we needed to integrate the Data Center Group and the Motorola Mobility groups at the same time was pretty daunting.

“We had to deal with the complexity of the business logic for both the new server and Motorola Mobility product lines, as well as our PC product line. The existing architecture struggled to cope and the resulting performance issues impacted the entire supply chain. On top of that, we were also opening new manufacturing plants in Mexico and the US to ramp up server production – further complicating matters.”

To simplify and streamline operations, Lenovo wanted to build a brand-new, end-to-end supply chain platform dedicated solely to server manufacturing.

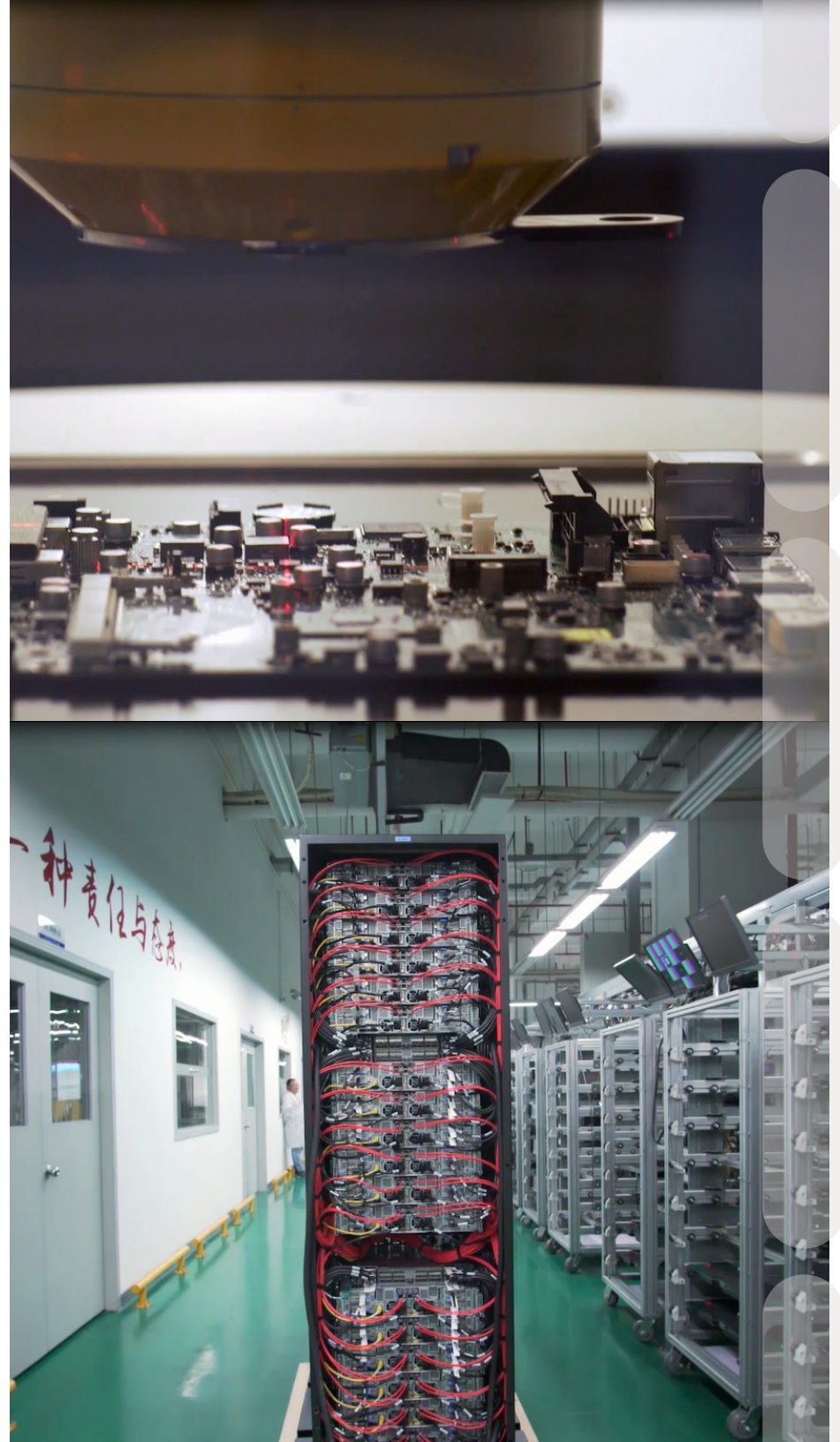
Crystine Wang comments: “The planning logic required for the data center servers, as well as the associated storage and networking solutions, is totally different to that of our existing PC products. It would have taken way too much time and effort to renew the legacy systems and codes to meet our standards, so we decided to just start again from scratch.”

To enable faster manufacturing, financial and operational planning, Lenovo teamed up with SAP to deploy SAP Advanced Planning and Optimization (APO), Vendor Management Inventory (VMI), and Cost Forecast Engine (CFE), running on the SAP HANA in-memory platform.

Crystine Wang remarks: “When we first moved our SAP Business Warehouse environment to SAP HANA back in 2011, we were blown away by the performance improvements. Data loading was 50 times faster and reporting performance improved by a factor of 45. We were also able to cut hardware costs by 86%. These impressive results convinced us to run our supply chain platform on SAP HANA as well.”

The SAP BW on HANA database runs on a cluster of 12 Lenovo System x3950 X6 servers, powered by Intel® Xeon® E7 processors, and with 2TB of memory per server. SAP APO, SAP VMI, and SAP CFE applications run in active-standby mode on two Lenovo System x3950 X6 servers with 1TB of memory for each server. Additional SAP applications run on Lenovo System x3650 servers powered by Intel E5 processors, with many applications virtualized with VMware vSphere.

“Together with SAP, we were able to design, implement, test, and get our new supply chain IT platform up and running in just 10 months,” recalls Crystine Wang. “This meant savings of about \$50 million.”



With its new supply chain platform running on SAP HANA supported by powerful Lenovo servers, the company can manage its new data center product line much more effectively and efficiently. And by expanding manufacturing capacity in Mexico and the US, Lenovo can build the products closer to North American customers, resulting in enhanced availability and delivery times.

Lenovo has also significantly reduced the time it takes to produce planning reports with its new supply chain platform. Whereas it would take at least 11 hours to run cost calculations before, the company can now complete the same calculations in as little as six minutes – and re-run the calculations as and when they need to.

Crystine Wang states: “It’s really cool that we can do cost calculations anytime, anywhere. We can even change or add the expense factor during the global planning meeting, and see the result immediately in real time. This means that we can get the very latest cost information to decision-makers, which enables them to optimize production plans, helping to keep the business agile and responsive.

“Previously, business users would spend up to a week creating and reviewing a full set of alternative cost plans. You would create one in the morning and then have to wait until the next day to see the cost impacts of the new plan. Now, users can complete simulated cost forecast plans in just one day. Calculation changes are performed in the morning and the alternatives are ready to be reviewed in the afternoon, saving up to four days of effort.”

Today, Lenovo is driving world-class supply chain operations across the data center product portfolio – thanks in large part to its SAP solutions. Lenovo’s achievement in transforming the supply chain operations from struggling to streamlined was recently recognized by SAP, who awarded Lenovo with the SAP HANA Innovation Award for Process Simplification.

Crystine Wang concludes: “We’re very proud of what we’ve achieved. With support from SAP, we have completely transformed supply chain processes for the data center product line – making it faster, leaner and more efficient. Ultimately, this will help us to drive growth and profits as we expand our share of the global server market.”

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– Crystine Wang, Staff IT Engineer, Integrated Technology Service, Lenovo



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Solution components

Hardware

Lenovo System x3950 X6 with
Intel® Xeon® E7 processor
family

Software

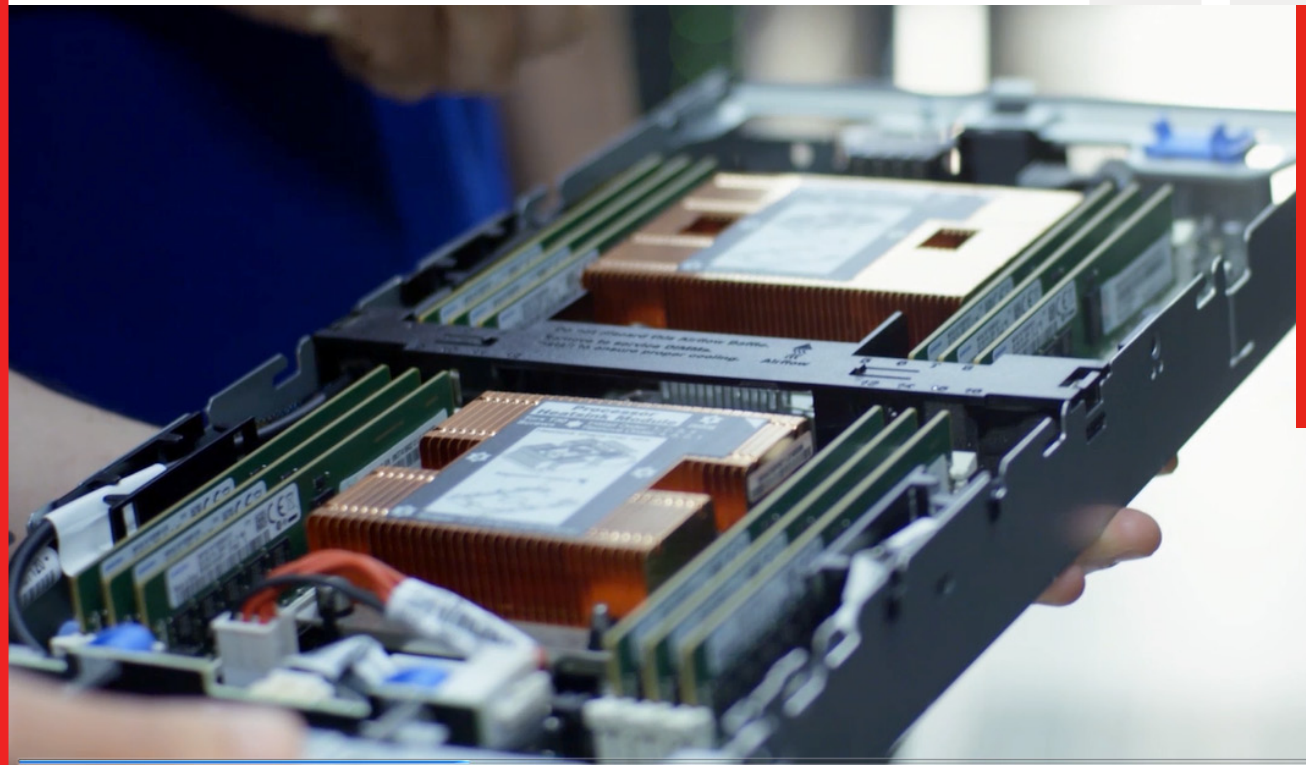
SAP Advanced Planning and
Optimization
SAP Cost Forecast Engine
SAP Supply Chain Management
SAP Vendor Management
Inventory
SAP HANA
SUSE Linux Enterprise Server for
SAP Applications
VMware vSphere



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