



# Faster financial analytics and reporting on SAP HANA steer Nissan to higher efficiency

## Intel Xeon Processor-based HPE ConvergedSystem900 maximizes performance

### Objective

Gain faster, more detailed insights from financial data to drive greater business efficiency

### Approach

Replace Oracle Database with SAP HANA running on HPE ConvergedSystem 900, leveraging data migration services from HPE Pointnext

### IT Matters

- Trimmed month-end SAP consolidated financial reporting time by over 4.5 hours, from 6 hours, 38 minutes to 2 hours, 1 minute with 13.7% more transactions
- Reduced SAP data extraction from 4 hours, 37 minutes to 1 hour, 27 minutes
- Increased capacity and scalability to meet increasing SAP data demands
- Improved data recovery point from 24 hours to 15 minutes

### Business Matters

- Ensures timely financial reporting to meet regulatory obligations and avoid financial penalties
- Enables financial analysts to run more complex queries to find opportunities for improving business efficiencies
- Supports expanding use of SAP applications as the business continues to grow
- Provides assurance of data integrity and business continuity



## Business growth puts pressure on SAP infrastructure

For a lot of people, an automobile is more than just transportation. It can be an expression of personality, a source of adventure, a virtually limitless extension of our lives into the wide world. For more than 80 years, Nissan has been manufacturing automobiles to suit all the reasons people buy cars and trucks. Today, it's one of the largest and fastest-growing automakers in the world, offering everything from zippy sports cars, to rugged SUVs and crossovers, to 100% electric, zero-emissions vehicles.

As a global enterprise, Nissan has a formidable presence in North America. In fact, the company built a record number of vehicles in the U.S. in 2016. And it continues to grow at an unprecedented pace. That's all

good for business. But if you're Chris Curtis, Nissan North America's senior manager of information systems, rapid business growth meant big challenges for his SAP® environment. The influx of data was pushing the Oracle database supporting SAP to its limits, far sooner than expected. Curtis needed to address the issue—and fast.

The Oracle database had grown to nearly 13 TB, and the Microsoft® Windows® environment on which it ran couldn't handle much more. In addition, the legacy HPE servers underpinning this environment were approaching end of life. To relieve some pressure, Curtis and his team embarked on an archiving project to clean out inactive data. But that only brought the database down to about 10 TB. At that size, the overnight batch processes producing critical month-end financial reports and dealer invoices were struggling to complete before the start of business next day.

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— Chris Curtis, Senior Manager of Information Systems, Nissan North America

Curtis explains the problem, “We have to report financial results to our parent company in Japan and other financial authorities in a timely manner, or we could face stiff fines. If we don’t get our dealer invoices out on time, they can’t pay for the vehicles and therefore can’t sell them. We have to finish batch jobs no later than 7:30 in the morning or there’s a huge ripple effect on the business, and we were getting very close to that time constraint.”

### Turning challenges into opportunities

Curtis turned his challenges with Windows and Oracle into an opportunity to upgrade the infrastructure supporting SAP. For the database, the logical progression was to move from Oracle to SAP HANA®.

“Over time we will continue to grow our SAP footprint, which will put even more pressure on the capacity of the system,” says Curtis. “We simply need to process more data without extending the time to do that. The power of HANA’s in-memory database gives us the flexibility to take on this additional work and meet our customer requirements.”

The next question was what hardware platform to choose for SAP HANA. Curtis decided from the outset to go with a HANA appliance because it would simplify the

infrastructure with a purpose-built, turnkey solution, and reduce risk by having all components pre-integrated from a single vendor. However, storage capacity was still a significant concern given the rapid growth of Nissan’s SAP data.

Because SAP HANA natively compresses data, Nissan’s original database would shrink to about 4 TB after being moved off of Oracle. But to accommodate expected growth, Curtis wanted to have at least double that capacity on the appliance. That led to only one viable vendor: Hewlett Packard Enterprise (HPE) and the HPE ConvergedSystem 900 built on the Intel® Xeon® Processor E7 Family, a factory-integrated system offering unparalleled speed, scalability, and efficiency.

“In May 2016, there weren’t many larger scale HANA appliances certified by SAP,” Curtis recalls. “We looked closely at HPE and another vendor, but they couldn’t scale high enough. The HPE ConvergedSystem 900 provided the 12 TB of capacity we wanted for SAP HANA, and we were very impressed with the depth of technical knowledge the HPE team brought. They understood our business needs and came in with a proposal that not only offered the best configuration for the appliance, but also anticipated our need for high availability and disaster recovery by including a data replication and failover solution.”

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### **HPE ConvergedSystem 900 proves ideal for SAP HANA**

Nissan North America deployed the HPE ConvergedSystem 900 for SAP HANA Scale-up Configurations to run its production SAP HANA database in a SUSE Linux® operating environment. The solution includes HPE Serviceguard for Linux, which replicates SAP HANA data to a second ConvergedSystem 900 appliance for high availability and a third ConvergedSystem 900 appliance offsite for disaster recovery. In tests, Serviceguard for Linux delivered a data recovery point of 15 minutes, a significant improvement over the previous recovery point of 24 hours. Recovery time improved from 48 hours previously to two hours with HPE Serviceguard for Linux.

Nissan also deployed the HPE ConvergedSystem 500 for SAP HANA Scale-up Configurations, also built on the Intel Xeon Processor E7 Family, to provide test and development environments for SAP HANA. HPE Pointnext installed the HPE systems and performed the data migration from Oracle to SAP HANA.

“HPE Pointnext got us up and running ahead of schedule, which gave us extra time in case we ran into any hardware issues,” Curtis advises. “But we never had any hardware issues. With the help of HPE Pointnext, everything went very smoothly. Overall, it was a very pleasant experience.”

Today, Nissan runs SAP Suite on HANA on the HPE ConvergedSystem 900, including financial modules for general ledger, accounts payable/accounts receivable, purchasing, asset accounting, invoice generation, among many others. For cost forecasting, Nissan also uses data from SAP HANA in SAP Business Warehouse, which runs on the HPE ProLiant BL460c Server in a Red Hat® Enterprise Linux® operating environment with Oracle database.

Curtis points out that the SAP HANA infrastructure is operated by DXC Technology in collaboration with HPE. “The teams from DXC and HPE work very well together. There’s a strong working relationship between the two companies that’s quite seamless. Between HPE and DXC, the HANA appliance is essentially a hands-off device from our perspective.”

## Case study

Nissan North  
America

## Industry

Automotive  
manufacturing

## Customer at a glance

### Application

- SAP financial accounting and purchasing

### Hardware

- HPE ConvergedSystem 900 for SAP HANA Scale-up Configurations
- HPE ConvergedSystem 500 for SAP HANA Scale-up Configurations
- HPE ProLiant BL460c Server
- Intel Xeon Processor E7 Family

### Software

- SUSE Linux Enterprise Server
- Red Hat Enterprise Linux
- HPE Serviceguard for Linux
- SAP HANA
- SAP ECC 6.0
- SAP Business Warehouse v7.5
- Oracle Database

### HPE Pointnext services

- HPE Installation and Deployment Services
- HPE Storage Consulting Services

## Dramatic performance improvements

Soon after going live with SAP HANA on the HPE ConvergedSystem 900 powered by the Intel Xeon Processor E7 Family, Curtis and his team worked with their business customers to test and verify key SAP applications on the new platform. By all accounts, their initial impression was very favorable.

Curtis puts it this way: “We saw a lot of smiling faces.”

One business user reported back that on SAP HANA it took only a couple minutes to reconcile the goods receipt and invoice receipt, which must be properly matched so charges are applied to the correct account when paying a supplier. Before HANA, it took an hour and a half to reconcile those same receipts.

In August 2017, the first month of operations on SAP HANA, the processing time to extract and consolidate data for month-end financial reporting shrunk by over 4.5 hours while handling 13.7% more transactions. Total SAP execution time across all company codes for this process, previously 6 hours, 28 minutes, was reduced to 2 hours, 1 minute with HANA. The portion of the data extraction process just for Nissan North America company code, which previously ran 4 hours, 37 minutes finished in just 1 hour, 27 minutes on HANA.

“These processing improvements will lead to smoother financial reporting,” Curtis predicts. “Completing reports faster allows the company to get that financial information out to shareholders and regulators on a timely basis. It also frees up time for our financial analysts to run more complex queries against larger data sets and find opportunities for improving business efficiencies or reduce costs.”

With the positive impacts of SAP HANA already helping Nissan North America transform its financial operations, Curtis is looking toward the next phase in the company’s SAP evolution: SAP S/4HANA.

“We see S/4HANA as a chance for Nissan to move to a more standardized SAP implementation,” he suggests. “That will simplify our SAP environment while providing higher performance, an easier upgrade path, and better support from SAP due to fewer customizations.”

Curtis concludes, “S/4HANA will be a way for us to really maximize our investment in SAP. Having a reliable, scalable, and high-performance infrastructure like the HPE ConvergedSystem 900 is key to making that vision a reality.”

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