



ENDRESS+HAUSER GROUP RELIES ON VMWARE TO IMPLEMENT SAP HANA

Endress+Hauser 
People for Process Automation

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INDUSTRY

PROCESS AUTOMATION

LOCATION

WEIL AM RHEIN

CHALLENGES

- Reduce the complexity of the heterogeneous IT environment
- Standardise systems and harmonise the platform
- Introduce SAP HANA to an IBM mainframe environment not intended for this purpose

SOLUTION

For the implementation of SAP HANA, the SAP systems previously operated in a mainframe environment were virtualized using the VMware vCloud Suite Advanced and DELL-based Intel x86 servers.

OUTCOME

- A standardised platform allowing all systems to be centrally managed and running all eight core ERP systems and SAB BW systems
- Cost and time savings through synergies in IT operational services
- ROI within three to five years

As part of its digitalisation strategy aimed at cutting IT complexity, Endress+Hauser InfoServe, Endress+Hauser Group's IT service provider, decided to introduce SAP HANA to all relevant business units within the company. However, this decision also had a massive impact on the data center strategy, as previous SAP installations at Endress+Hauser were operated under Linux on IBM mainframes. In order to avoid an outdated and cost-intensive migration to bare metal servers, it decided for the elegant route of virtualization. The transition to SAP HANA went smoothly using the VMware vCloud Suite Advanced with other VMware solutions. In addition, the standardization of the previously separate platforms for SAP (Mainframe) and the other systems (VMware) resulted in significant savings in cost and time and the existing know-how of the IT staff was used.

Endress+Hauser AG is an international supplier of measurement instrumentation, services and solutions for industrial process engineering and automation. With its headquarters in Reinach near Basel in Switzerland, the Group offers comprehensive solutions for flow, level, pressure, analysis, temperature, recording and digital communications across a wide range of industries. The family-run public corporation comprises more than 100 companies in 44 countries and employs more than 13,000 people.

Endress+Hauser InfoServe GmbH + Co. KG has been the independent IT service provider of the Endress+Hauser Group since 1997. Its 360 IT specialists work for InfoServe on behalf of the entire group of companies at 160 locations around the world.

Challenge: The complex path to simplicity

Agility and simplicity require the reduction of complexity. Accordingly, the team around Ralf Straub, Infoserve's Director of IT Operations, has adopted the "Run-Simple-Strategy" of SAP HANA and decided to convert all SAP systems to the new in-memory technology of SAP. However, it is a long way from complexity to simplicity. The InfoServe IT team was faced with the challenge of converting a total of eight productive SAP ERP systems, an SAP BW system and various technical SAP systems to the new SAP HANA database and the latest SAP software version. The even greater problem on the way to simplicity was that SAP HANA could not be operated on the existing IBM mainframes. Theoretically, there are three solutions for this: On the one hand, there is the outdated bare-metal version, which contradicted any IT trend and thus also the Infoserve strategy with an exorbitant increase in hardware. On the other hand, operation on monolithic and proprietary Unix machines was ruled out for economic and recovery reasons.

“The deciding factor for VMware was that we can run everything we want to on one platform – whether SAP, Linux or a Windows server; VMware is very clearly the pioneer.”

RALF STRAUB
DIRECTOR OF IT OPERATIONS
ENDRESS+HAUSER INFOSERVE

VMWARE IN USE

- VMware vCloud Suite Advanced
 - VMware vSphere
 - VMware vCenter
 - VMware vRealize Suite
- VMware Site Recovery Manager

APPLICATIONS VIRTUALISED

- SAP HANA
- Other core ERP systems
- Different Mainframe and Web servers

HARDWARE

- Dell Poweredge930
- EMC Vmax3

The solution: One platform to cover all cases

At the end of the day, only the third option was possible: virtualisation. In this approach, an intelligent software layer is incorporated between the hardware and hypervisor in order to be able to operate platform-independently. Since relevant experience had already been made with VMware in the area of server virtualisation, there was no question about the appropriate provider. There were already 900 virtual machines running on the server side. Now, in order to be able to operate SAP HANA, the company extended its virtualisation strategy with the market leader. In summer 2016, after a nine-month selection process, it introduced the VMware solutions that implement a Software-Defined Data Center (SDDC): vCloud Suite in the Advanced version with the components vRealize Operations and vRealize Automation, vCenter as well as the VMware Site Recovery Manager. The goal was a “data center out-of-the-box” with a standardised network and standardised platform capable of running all applications reliably. VMware vCloud Suite is an integrated package that combines the vSphere Hypervisor and VMware vRealize Suite – the management platform for virtualised data centers and hybrid clouds. The vCloud Suite improves the availability and performance of applications, meets the demands of applications for vertical or horizontal scaling and automates the provisioning of infrastructures ready to use in multi-cloud environments. What really convinced InfoServe was the fact that the SAP slogan “Run Simple” could actually only be achieved using VMware’s virtualisation platform. The project was supported by DELL, as principal contractor, and by Fritz & Macziol, as consulting implementation partner, who was able to contribute its expertise to the project with regard to the special interplay of SAP HANA on VMware.

The result: Run Simple with VMware

Ralf Straub, Director of IT Operations at Endress+Hauser InfoServe, emphasises what was important: “The choice of VMware was the only logical consequence after the decision for SAP HANA was taken. It was the only way to achieve the goal of reducing the complexity of the overall IT environment and opening the doors to standardisation and automation in the data center.” This was accompanied by a number of welcome benefits. Whereas 900 virtual machines used to run on VMware, that number has now increased to 1,600 VMs, which are centrally managed – a level of flexibility that could not have been achieved with conventional hardware alone. InfoServe’s IT professionals still have plenty to do. After all, 450 operating system images are operated in the mainframe area of the two central data centers, which all have to be migrated to the new Intel/VMware platform. They include highly complex systems such as DB2 database servers, NFS servers, shared-file systems for all SAP systems and servers for setting up Java Tomcat farms. From an operational perspective, InfoServe saves the costs for the specialist expertise that would otherwise be required to operate different platforms. Moreover, Straub and his colleagues report increased time savings in day-to-day operations, since only one common platform needs to be managed despite the fact that more needs to be administered. This has allowed two previously discrete teams to be merged, and two different mechanisms are no longer required for the same IT services, such as backups and site recovery. Over the long term, this entails greater strategic competitive advantage for Endress+Hauser. The IT teams can devote themselves to business-orientated solutions. What is interesting from a business perspective is that a ROI will be reached within three years despite a two-year dual phase, during which the SAP migration in itself and the old IBM mainframe environment without SAP in parallel run up costs.

“VMware moves us a lot closer to our goal of a data center out of the box – a standardised network and a central platform where we can run all applications.”

RALF STRAUB
DIRECTOR OF IT OPERATIONS
ENDRESS+HAUSER INFOSERVE

A glimpse into the future

The migration to SAP HANA has not yet been fully concluded, and the old systems are still running concurrently. Nevertheless, the main accomplishment is already clear: the smooth migration of all seven core ERP systems and SAP BW system to VMware and successful operation there. VMware will also be introduced to the medium-sized data centers in the tier-3 architecture in the mid-term in order to move nearer to the goal of a hyper-convergent infrastructure. Ralf Straub is also considering adding vRealize Suite Business for Cloud. There are plans to replace the existing Citrix systems with VMware Horizon in the near future in order to move even closer to the goal of uniformity and simpler administration.

