The University of Basel is accelerating its data warehouse via two HP ConvergedSystem 500s for SAP HANA

The challenge
- Decentralised organisational structure with heterogeneous database landscape (SAP and DB2 databases)
- High demand for data-intensive analyses and reports
- Performance problems in bulk data processing
- Data harmonisation as requested

The solution
- Migrate the central SAP Business Data Warehouse onto two HP ConvergedSystem 500s for SAP HANA
- Design and realisation of the migration jointly with Sapify AG, the University of Basel and partner-company Niederer Engineering AG
- The project was completed one month before the scheduled deadline

The result
- Considerably greater performance in processing of large data volumes
- Generation of complex analyses and reports with the push of a button from the data cockpit
- Easy usage of data from different sources with no time-consuming pre-aggregation
- Analysis results from future data models partly realisable in near real-time
- Faster results with smaller data volumes

The University of Basel faces fierce competition in recruiting the most talented individuals and attracting funding from public and private donors. And like most higher education institutions, the university is a complex organisation consisting of different interest groups and cultures. The need for the SAP Competence Center (SAPCC) to exhibit maximum ‘business’ efficiency and structural heterogeneity poses an enormous challenge, particularly with regard to bulk data processing. The decisive question is: how can large amounts of data for reports and analyses from differing data sources be processed significantly faster in the central SAP Data Warehouse? The answer: SAP HANA on two HP ConvergedSystem 500s.
Case Study
Uni Basel

Customer portrait

University of Basel – a top university with an international reputation
Founded in 1460, the University of Basel is a full university with seven faculties that offers bachelor, master and doctorate degree programs. Presently the University of Basel has around 13,000 matriculated students and doctoral candidates and roughly 3,000 full-time personnel, two thirds of which approximately are academic staff. Life Sciences, Image Science, Nanoscience, Sustainability and Energy Research and European and Global Studies are the university’s strategic research and teaching priorities. The research work of Uni Basel regularly puts the institution among the world’s top 100 universities in international rankings. The university has a modern, high-performing IT, the hardware for which is mostly based on HP products in the SAP environment. The administration strategically utilises SAP and maintains its own SAP Competence Center, certified as a Customer Center of Expertise, with 10 staff members who ensure operation and perform further development of the SAP environment.

Initial Situation

Problems with high-volume data analysis
The University of Basel deploys SAP software in the administrative areas of resource management, finance and controlling, human resources and logistics. The University’s individual SAP modules deliver data daily to the central data warehouse based on SAP BI. In the past there have been recurring performance problems in bulk data processing, as data did not flow unchanged into the data warehouse, but to be aggregated at first in ETL processes (Extract, Transform, Load). Christoph Wyss, project manager and developer at the SAP competence centre, responsible for data warehousing, has thus been looking into ways to accelerate bulk data analysis, together with long-standing SAP partner Sapify AG. Wyss: “SAP HANA is a promising new in-memory SAP database technology, and the hardware component HP ConvergedSystem for SAP HANA is ideally designed for this technology. The decision to procure SAP HANA was speeded up by management’s need to update SAP Business Planning and Consolidation Tool to accommodate “SAP BPC embedded”, which requires SAP HANA.” HP Gold Partner and university specialist Niederer Engineering AG was additionally brought on board as hardware expert.

“The project was an enormous success. The tremendous cooperation between Uni Basel, Sapify AG and Niederer Engineering AG meant the SAP HANA data warehouse was able to go live a month ahead of schedule.”
– Christoph Wyss
University of Basel
SAP Competence Center
**Solution**

**SAP Data Warehouse migrated to HP ConvergedSystem 500 for SAP HANA**

After extensive pilot testing, which went well, Uni Basel’s SAP Data Warehouse was migrated over to two HP ConvergedSystem 500s for SAP HANA. Arsène Gschwind of Sapify AG explains the advantages of the new technology: “HANA allows processing very large volumes of analytical and transactional data in real time. The performance gain is achieved thanks to in-memory technology, in which data are read directly from the RAM instead from a hard drive or flash storage medium. Another factor is column-oriented storage, which can render large sets of quantitative data with the same characteristics (columns) individually selectable in a highly flexible fashion for analysis.” Christoph Wyss of Basel University adds: “For us, HANA is thus a really interesting technology, as it no longer matters whether data are taken from an OLTP database system set up for business applications or from an OLAP database optimised for bulk data analysis – processing is extremely fast either way, as data pre-aggregation is no longer necessary.” Two HP ConvergedSystem 500s for SAP HANA in the scale-up configuration were deployed as hardware. Niederer Engineering AG supplied plug-and-play appliances pre-configured and pre-tested for HANA, along with a comprehensive HP service and support package.

**Result**

**Substantially faster bulk data processing**

The performance enhancement in processing of large data volumes realised by the HP ConvergedSystem 500 for SAP HANA is impressive: import processes that used to take nearly three hours are now done in 20 minutes. Project manager Wyss: “The tools we used for financial reporting required multiple conversion steps and involved media breaks. With HANA, users can run reports with the push of a button in nearly no time from a specially programmed data cockpit.” The two HP ConvergedSystem 500s for SAP HANA afford Uni Basel better decision-making through processing and analysis of operational data on nearly a real-time basis. Planning and controlling processes at the University of Basel can be centralised and integrated through SAP BPC embedded (based on SAP HANA). Another advantage Wyss points out: “The high-performing and flexible HANA technology will help us consolidate our systems environment for greater uniformity.” Uni Basel’s SAP Data Warehouse specialist has nothing but praise for cooperation partners Sapify AG and Niederer Engineering AG: “The project was a huge success. We were done a month ahead of schedule. Sapify AG and Niederer Engineering AG were highly dedicated and competent migration partners, and were perfect complements to one another. We had someone to contact any time day or night when we needed it in the hot phase of the project.” As Sapify CTO Arsène Gschwind emphasises, there is a certain learning curve with the new in-memory computing solution by SAP and HP: “The HP HANA appliance was new territory for us. Niederer Engineering AG provided us the ultimate in support, immediately putting us into direct contact with HP technical specialists – which proved highly valuable in the course of the project.”

“The two HP ConvergedSystem 500s for SAP HANA allow processing and analysis of operational data on nearly a real-time basis.”

– Christoph Wyss
University of Basel
SAP Competence Center
Overview of the solution

Hardware
- 2 x HP ConvergedSystem 500 for SAP HANA (scale-up) with 2 sockets each and 512 GB RAM

Software
- SAP HANA (High-Performance Analytic Appliance)

Partners

Sapify AG
Sapify AG is an innovative technology and consulting firm for the entire spectrum of SAP technology services, from setting up individual hardware components in the data centre to managing SAP base components and 24 x 7 operation under an SAP technology outtasking model. Sapify AG is currently building up cutting-edge hardware infrastructure at one of Switzerland's most modern data centres in order to offer attractive outsourcing service models in future.

Niederer Engineering AG*
Hardware, software and services: for over 30 years, HP Gold partner Niederer Engineering AG has been dedicated to providing productive, secure and cost-effective IT infrastructures based on HP systems. Businesses and academic institutions benefit alike from the company's proven consulting expertise, extensive experience, continuity and commitment to ongoing optimisation. Niederer Engineering AG is certified by HP as a focused Higher Education Partner, providing support to universities and colleges.

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“The HP ConvergedSystem 500 for SAP HANA with in-memory technology is capable of processing very large quantities of analytical and transactional data with great rapidity.”
- Arsène Gschwind
Sapify AG

*Niederer Engineering was acquired by the St. Gallen-based IT systems enterprise Bechtle Switzerland AG on 01/01/16