



Eberspächer achieves a new high in business resilience with IBM and SAP

Overview

■ The Challenge

To minimise risk of downtime for key SAP ERP systems, Eberspächer wanted to consolidate to a single production data centre, continuously mirrored to a backup data centre, without building a completely new site. The challenge was to accurately replicate large volumes of business-critical data across the 200km between the existing data centres.

■ The Solution

Engaged IBM to refresh its SAP software platform and implement long-distance data replication. The central SAP software instance and databases run on IBM System z mainframes, a z990 in the primary data centre and a z890 in the backup data centre. Other SAP applications run on two IBM System p5 550 servers. Each data centre contains an IBM System Storage DS8100 storage system, with 20TB capacity in the production centre and 40 TB capacity in the backup centre. IBM System Storage Global Mirror software and IBM FlashCopy software are used to synchronize data between the two sites.

■ The Benefits

Consolidation of infrastructure will generate long-term savings in hardware acquisition and keep administration costs stable; Global Mirror enables continuous mirroring to backup site 200km away, helping avoid the cost of building new backup data centre; high protection for business-critical SAP data supports company's role in the extended automotive supply chain

■ Key Solution Components

Sector: Industrial, Automotive
Applications: SAP® R/3® 4.6C, including FICO, HCM, MM, PS and WM applications; SAP for Automotive solution portfolio
Hardware: IBM System z™ (models z990 and z890), IBM System p5™ 550, IBM System Storage® DS8100™, IBM TotalStorage® 3494 Tape Library, Cisco SAN Switch 9216I
Software: IBM z/OS® V1.6, IBM z/VM®, IBM AIX® 5L V5.3, IBM System Storage™ Global Mirror, IBM FlashCopy®, IBM Tivoli® Storage Manager, IBM DB2® for z/OS V8
Services: IBM Premier Business Partner SVA, IBM Global Technology Services

Founded in 1865 in Germany, Eberspächer is a global supplier of specialised components to the automotive industry. With nearly 6,000 employees in 16 countries worldwide, Eberspächer is focused on two core competences: vehicle heaters and exhaust technology, including catalytic converters, particulate filters and silencers. In 2005, the company achieved sales of around €1.6 billion, a year-on-year increase of 11.6 per cent.

As a supplier to the automotive industry, Eberspächer must synchronize its production and delivery cycles with those of its customers, which include Daimler Chrysler, BMW and VW. These automotive companies operate according to just-in-time and just-in-sequence methodologies. Particularly in exhaust technologies – where Eberspächer is one of the top four global producers – the company differentiates itself through its ability to integrate perfectly into the supply chain. Any interruptions to

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manufacturing or delivery at Eberspächer would have a very damaging effect on the extended supply chain, potentially causing its customers' production lines to halt, with significant financial implications.

To protect its reputation and to ensure that it could continue to meet customer requirements for just-in-sequence delivery, Eberspächer wanted to strengthen the infrastructure for its SAP software solutions. Wolfgang Vögele, Head of Data Centre, comments: “There is constant pressure on Eberspächer from both customers and competitors to achieve ever-higher levels of availability for core systems. Using new IBM technologies, we were able to create a robust dual-site architecture for our business-critical SAP software without any additional building costs. The business is now extremely well protected against downtime.”

Global solution, local customisation

In Germany, Eberspächer's two main divisions – exhaust technology and vehicle heaters – are located in sites

more than 200 kilometres apart. Both use SAP software to manage practically every aspect of their operations, from financial accounting and human resources to materials management and warehousing. The SAP database for vehicle heaters is 200GB, while the database for the exhaust technology side of the business is an impressive 1.2TB. Out of a total of 2,000 named users there are about 1,000 concurrent users of the SAP applications worldwide.

The use of SAP software has enabled Eberspächer to achieve business-process optimization in a number of areas, contributing to improved inventory management and a reduction in stockpiling.

SAP software is the strategic ERP choice for Eberspächer, which gives the company a common platform for all its business units, to be rolled out worldwide in country-specific versions. For example, when deploying the system in Canada, the SAP software was able to map Canadian reporting standards and laws, helping to deliver the new functionality to users more quickly than expected. Having common systems means that global users have shared, standardised reporting abilities and a common user interface. The SAP software's support for Unicode and multiple languages means that the solution can cover all Eberspächer's global operations.

Data centre consolidation and disaster recovery capabilities

Eberspächer saw a clear opportunity to move to newest IT technology with IBM zSeries and DS8000 Data Storage and dramatically improve the availability of the applications by consolidating the existing two data



centres at its German sites to a single infrastructure for its SAP software environments to one site, retaining the 'spare' site as the disaster data centre. This process was achieved without increasing the total costs of ownership.

Since SAP software is common to both divisions, Eberspächer decided to run it on a common server platform. The plan was to create a more robust infrastructure that would be better protected against disaster, using consolidation to a single production data centre to free up the second data centre to act as a backup site.

IBM System Storage Global Mirror and FlashCopy software were the enabling technologies for the plan, allowing data to be mirrored across the 200km between the Esslingen and Neunkirchen sites.

"Global Mirror is a good example of what we see as technology leadership from IBM, and for that reason Eberspächer is one of the first adopters of this technology in Europe," comments Wolfgang Vögele. "The IBM solution enables us to gain a very high level of protection for data, with low latency and at relatively low cost. In the event of a total failure in the primary data centre, the SAP applications will be fully operational in the backup site within a few hours."

The ability to restore normal operations rapidly is a vital benefit for Eberspächer in terms of preserving its good reputation with our customers. Any interruption to the company's production lines could mean the loss of hundreds of thousands of Euros per hour, so the main goal was to make the role of the IT in the supply chain as reliable as possible.

Resilience for business-critical systems

Located at Eberspächer's primary data centre in Esslingen, a new IBM System z mainframe, model z990, acts as the SAP database server running IBM DB2 for z/OS. Another critical SAP component – besides the database server – is the central SAP software instance, which is also hosted on the z990 for availability reasons and runs on Linux under z/VM. All other SAP application server workload was consolidated to two new IBM System p5 550 servers running IBM AIX 5L V5.3. Besides the central SAP software instance, Eberspächer runs IBM Tivoli Storage Manager on Linux in a z/VM virtual machine on the z990, using it to back up open systems data from other platforms. A second new mainframe, model z890, is housed in the Neunkirchen data centre to act as a backup for the z990.

By consolidating its SAP database servers and the central SAP software instance to the System z platform, Eberspächer is taking advantage of the mainframe's unrivalled availability and reliability to support these most critical parts of the SAP solution architecture. The System p servers offer superb performance and availability for all other SAP application server workload. The consolidated IBM infrastructure for both servers and storage gives Eberspächer a powerful, yet compact and easy to manage platform for its vital SAP applications.

With the System z platform and Global Mirror allowing the existing second data centre to be used as a backup site, the company expects to achieve long-term cost stability. Running the critical elements of the SAP software architecture on the mainframe ensures very high availability for production ERP systems, and Global Mirror will

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enable the systems to minimise the impact of a disaster.

All enterprise data is held on two IBM System Storage DS8100 storage systems, a production machine with 20TB capacity in the Esslingen data centre, and a backup machine with 40TB capacity in Neunkirchen. By consolidating all storage to the DS8100 systems, Eberspächer has simplified its infrastructure, improved performance and availability, and can easily scale up to meet future requirements. A 155Mbit/s WAN line connects the two data centres, enabling the high data throughput required to maintain synchronicity of data. The two DS8000 Systems are connected with Cisco 9216 SAN Switches, which provide the conversion from FC protocol of the DS8000 and the IP protocol of the WAN line (FCIP). The data packets do not arrive synchronously at the backup site, so they are stored and then a consistent group of the mirrored data is taken every five minutes.

The business of the company could survive just 24 hours of downtime, and the previous infrastructure with two separated data centres did not offer adequate protection. The IBM Global Mirror, FlashCopy and DS8100 solution gives the necessary resilience for the business-critical SAP software systems.

To support its business continuity planning, Eberspächer has engaged IBM Global Technology Services to support the activation and de-activation of the Capacity Backup Upgrade (CBU) processors on the z890 server in the backup data centre. This IBM service is delivered on an on demand basis, so it will only be used if an unforeseen failure in the primary data centre compels Eberspächer to move the z990 workload across to the z890 server. IBM Global Technology

Services will also provide testing services to ensure that the CBUs can be activated quickly and reliably, helping to guard against potential delays in disaster recovery.

Global integration

As part of the creation of the new dual-centre infrastructure, Eberspächer will upgrade to DB2 version 8, which will produce significant performance improvements, particularly during backup. FlashCopy is supported within DB2 V8, so the database can be copied within seconds – this is also a good method for cloning databases.

Eberspächer worked with SVA GmbH, an IBM Premier Business Partner, to size and implement the new IBM infrastructure. The cooperation between SVA and IBM was excellent, and the company was satisfied with the competence of the SVA team, which offered a very high level of service.

To implement the Global Mirror solution, Eberspächer worked together with Comparex, an IBM Premier Business Partner with very good experience in integrating Global Mirror infrastructure and WAN IP connections.

With its robust new infrastructure in place, Eberspächer is now focusing on rolling out the SAP functionality across all global subsidiaries.

Wolfgang Vögele concludes, "The IBM System z and DB2 infrastructure has given us a resilient foundation on which to build a globally integrated business, managed using SAP software."

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