

SAP/Microsoft Customer Success Story
Professional Services – Safety Certification Services



“Deciding to run our SAP applications on SQL Server 2005 was a fantastic decision. We don’t have problems with downtime or performance. It just really runs well.”

Gunnar Thaden, CIO, TÜV NORD AG

AT A GLANCE

Company

- Name: TÜV NORD AG
- Location: Hannover, Germany
- Industry: Professional services
- Products and services: Safety certification services
- Revenue: €600 million
- Employees: 7,000
- Web site: www.tuev-nord.com

Challenges and Opportunities

- Simplifying complex, heterogeneous data center
- Streamlining processes and reducing total cost of operations
- Developing a “best-for-TÜV NORD” rather than just a best-of-breed solution

Objectives

- Consolidate on a single application and operating system platform
- Reduce costs and increase operating efficiency
- Evolve an enterprise service-oriented architecture (enterprise SOA) for flexibility and growth

SAP® Solutions and Services

- SAP® ERP application
- SAP Customer Relationship Management application
- SAP xApp™ Mobile Time and Travel composite application
- SAP NetWeaver® Business Intelligence component
- SAP NetWeaver Portal component
- SAP NetWeaver Application Server component

Third-Party Integration

- Database: Microsoft SQL Server 2005
- Hardware: HP ProLiant DL585
- Operating system: Microsoft Windows Server 2003; Microsoft Windows XP Tablet PC Edition

Implementation Highlight

One of the earliest organizations to have an SAP production database larger than 1 terabyte on Microsoft SQL Server 2005

Why SAP/Microsoft

- Single application and operating environment
- Lower operating costs
- Increased flexibility
- Easy deployment of enterprise SOA

Benefits

- SAP applications support global expansion goals of TÜV NORD.
- Microsoft SQL Server supports multiterabyte databases used by SAP applications.
- Current versions of SAP applications and Microsoft SQL Server combine to deliver a 15% improvement in application performance over legacy versions.

Existing Environment

Legacy SAP applications, Microsoft Windows operating system, and Microsoft SQL Server

TÜV NORD

SAP® Software Helps Improve Process Efficiency and Ease of Information Access

In 2004, Hannover, Germany-based TÜV NORD merged with Rheinisch-Westfälisch TÜV (RWTÜV) e.V. and TÜV Hannover/Sachsen-Anhalt e.V. to form TÜV NORD AG. Soon thereafter, the company found itself with a heterogeneous IT environment composed of multiple versions of SAP® software as well as multiple operating systems and hardware platforms. TÜV NORD officials could see that this environment was too complex and that it would both compromise operational efficiency and prove costly to maintain. So TÜV NORD officials decided to embark on a program to simplify and consolidate this IT infrastructure.

TÜV NORD has consolidated its SAP applications and runs them all on a platform based on Microsoft Windows Server 2003 64-bit Enterprise Edition and Microsoft SQL Server 2005 64-bit Enterprise Edition. By doing so, TÜV NORD has reduced its total cost of ownership (TCO) to 37% of the industry average, reduced the cost of database administration to less than 60% of the industry average, and increased overall application performance by 15%.

Emphasizing IT Consistency

TÜV NORD is a not-for-profit organization that plays a critical role in certifying the safety of a wide range of products, processes, and services. TÜV NORD started its existence in the nineteenth century, certifying the safety of steam boilers; today, it is the certification authority for everything from German drivers’ license inspections to medical devices, IT security, environmental management, and nuclear energy systems. It operates in more than 40 countries around the world and employs some 7,000 people, 70% of whom work in technical domains and two-thirds of whom have graduate degrees in engineering.

When TÜV NORD merged with RWTÜV and TÜV Hannover/Sachsen-Anhalt, it found itself supporting its business with an oddly heterogeneous IT infrastructure. Software from SAP provided support for the company's core processes of inspection, certification, and investigation. All its analytical and reporting requirements – including its financial, business, and technical reporting – relied on SAP software, too. But different divisions of the newly formed company had different versions of SAP software. Server hardware varied from division to division, as did database and operating system software. Some groups still used Microsoft Windows NT and Windows Server 2000, while others had upgraded to Microsoft Windows Server 2003; some were using Microsoft SQL Server 2000 and others had already migrated to SQL Server 2005.

TÜV NORD officials could see that this environment needed to evolve, but just how it should evolve was the key question. Between the databases supporting the old SAP NetWeaver® Business Intelligence (SAP NetWeaver BI) component at TÜV NORD and those supporting the component at RWTÜV, the

“My strategy was not to emphasize a best-of-breed approach, because that just puts you in a situation where you have different operating systems supporting different applications that come from different vendors and require different skill sets.”

Gunnar Thaden, CIO, TÜV NORD AG

new organization had more than two terabytes (TB) of data to manage. Would Microsoft SQL Server be able to handle a database of that size – particularly if it were to grow to four, five, or more terabytes in size? Should TÜV NORD consider moving to an Oracle environment? Should it consider moving off Windows Server and adopting Linux as the operating system supporting a consolidated environment?

TÜV NORD CIO Gunnar Thaden quickly made it known that an evolution that favored consistency and homogeneity was more important than one that favored any best-of-breed technologies. “My strategy was not to emphasize a best-of-breed approach,” says Thaden, “because that just puts you in a situation where you have different operating systems supporting different applications that come from different vendors and require different skill sets. You get different factions within the IT organization. I’ve been in the IT world for many decades, and I’ve seen all this before. I wanted to have a limited number of languages spoken within IT, so that’s where we focused.”

Embracing a “Best-for-TÜV NORD” Platform

It was soon apparent to Thaden and his IT organization that keeping the databases on Microsoft SQL Server would be easier than trying to move them to another environment. Moreover, the then new version of SQL Server – SQL Server 2005 – provided not only an easy migration path from those databases that had been running under SQL Server 2000, but it also came in a 64-bit version that would make it easy to support massive, multiterabyte databases. The 64-bit edition of Microsoft Windows Server 2003 Enterprise Edition had been out long enough to prove both its resiliency and ability to support mission-critical business software, so Thaden’s team soon found itself leaning away from any thoughts of migrating to a non-Microsoft platform.

As for the SAP software it was using? To meet the needs of global clients and a mobile work force, TÜV NORD decided to upgrade all its SAP applications – including the SAP ERP and SAP Customer Relationship Management applications, the SAP xApp™ Mobile Time and Travel composite application, as well as SAP NetWeaver BI, the SAP NetWeaver Portal, and SAP NetWeaver Application Server components – to their most current revision levels and run them on the 64-bit Windows Server 2003 and SQL Server 2005 platform. It also decided to embrace the concept of enterprise service-oriented architecture (enterprise SOA), which would enable it to build out new functionality quickly through the use of the SAP NetWeaver platform and reusable enterprise services.

This decision to standardize on the latest SAP applications and build an enterprise SOA was driven by the organization TÜV NORD had become. In its new incarnation, TÜV NORD was more global than ever, and more of its personnel were operating in a mobile manner. They needed to be able to interact with the SAP applications more easily and to upload information about their work and the hours they were billing. The latest versions of the SAP applications would make that easier to do.

Similarly, customers were interested in connecting to the TÜV NORD systems and databases – so they could both upload new information and query data as necessary. With an enterprise SOA, TÜV NORD could build Web services that would accept as input the kind of information that someone in the field – an automobile

“I’ve been in the IT world for many decades, and I’ve seen all this before. I wanted to have a limited number of languages spoken within IT, so that’s where we focused.”

Gunnar Thaden, CIO, TÜV NORD AG

inspector, for example – could submit electronically. The Web service could capture the information from the inspector, test and validate it, and pass it along to the SAP application within the TÜV NORD data center in a manner that ensures the security and integrity of both the data and the TÜV NORD infrastructure.

“We use software from SAP to support the majority of our business processes,” says Sven Otromke, SAP system manager at TÜV NORD, “Everything from financial management and reporting to materials management and human resources — across all our certification, inspection, and investigative lines of business. Some of the work we do involves certification of regulatory compliance, and we’ve extended our SAP applications with customized objects to ensure that we can meet government regulations to do that.”

“More and more we are working in the international arena,” Otromke continues. “We were becoming a global organization, and we felt we needed the functionality of the new systems to do the job. We wanted to use the SAP NetWeaver platform and enterprise SOA. We had evaluated its functionality and it fit well in our landscape. From a pure business point of view, we might not need all this functionality today – but we need it to take the next step in becoming the organization we want to be in the future.”

Supporting Multiterabyte Databases

TÜV NORD uses Microsoft SQL Server 2005 to support all SAP applications. The SQL Server database supporting SAP NetWeaver BI is currently 4.5 TB in size, and TÜV NORD officials anticipate that it may grow to 10 TB in size by the end of 2007. Already the database contains more than 25 multidimensional analytical data cubes, each with 16 dimensions. The database supporting SAP ERP currently holds more than 2 TB of data. Both these and more than 20 other SQL Server databases are growing rapidly. But TÜV NORD is prepared to support this growth: The HP StorageWorks Enterprise Virtual Array storage systems that it uses in its Hannover data center – which also provide file storage for other TÜV NORD applications – are already configured to support as much as 230 TB of data.

Reduced TCO

While consolidating on the latest versions of SAP software and SQL Server 2005 made it easier for TÜV NORD’s IT department to manage the overall environment, the decision has also delivered bottom-line benefits to the company. Recent benchmark tests, performed over the course of eight weeks by VM Solutions GmbH and documented in published Microsoft case studies, confirm that running SAP applications on Microsoft Windows Server 2003 and SQL Server 2005 make it possible for TÜV NORD to achieve TCO figures that are 37% lower than the industry average. The largest savings arise from lower personnel costs, particularly in the areas of database administration and support. With only four administrators supporting not only the SQL Server databases but also the servers and the SAP applications, total costs for administration and support at TÜV NORD are 56% lower than the industry average.

There appear to be two significant reasons why TÜV NORD can manage to support its infrastructure with such a small staff. First, SQL Server does not require specially trained, dedicated database managers. The same team that supports the servers supports the databases. Moreover, supporting SAP applications with SQL Server does not require specialists, either. The same staff that takes care of the SAP applications also takes care of the servers and the SQL Server databases, which cuts down considerably on TÜV NORD's operating expenses.

Increased Application Performance

One unanticipated benefit of consolidating the databases on SQL Server 2005 has been that the updated SAP applications themselves are performing better. Thaden had anticipated that the

“Upgrading to SQL Server 2005 enhanced our system performance by 15%,” says Thaden. “We generally see system performance go down slightly after deploying an SAP upgrade, because the new functionality typically increases demands on I/O, CPU, and RAM. We were impressed to see SQL Server 2005 boost overall performance.”

“Deciding to run our SAP applications on SQL Server 2005 was a fantastic decision,” says Thaden. “We don't have problems with downtime or performance. It just really runs well.”

“Upgrading to SQL Server 2005 enhanced our system performance by 15%. We generally see system performance go down slightly after deploying an SAP upgrade, because the new functionality typically increases demands on I/O, CPU, and RAM. We were impressed to see SQL Server 2005 boost overall performance.”

Gunnar Thaden, CIO, TÜV NORD AG

updated SAP applications might run more slowly – but just the opposite occurred. The new release of SAP NetWeaver BI runs on the HP ProLiant DL585 server – with four dual core Intel processors and 16 GB of RAM – that TÜV NORD had been using, but runs faster than ever.