Pilz ensures data safety for SAP software environment with IBM DB2 and Tivoli

Overview

■ ***The Challenge***

Engineering automation specialist Pilz focuses on both quality and safety. To sustain this, Pilz wanted to consolidate their SAP servers to a strategic technology platform that would allow the company to exploit server partitioning and virtualization. The challenge was to find a cost-efficient way to protect data and deliver very high system availability

■ ***The Solution***

Pilz turned to IBM to provide a fully-redundant landscape for the SAP environment. The solution not only protects data by introducing new mirroring techniques, but also actively monitors and manages all the SAP applications and infrastructure to provide enhanced reliability. Two IBM System p5 550s have been clustered for high availability with IBM Tivoli System Automation. Pilz has also deployed IBM SAN Volume Controller to virtualize the storage hardware, and has migrated its databases from Oracle to DB2

■ ***The Benefits***

Tivoli System Automation simplifies availability management by providing a single place to manage the SAP landscape; integration of DB2 into the DBA Cockpit within the SAP Computing Center Management System reduces administrative workload by 10 per cent; low DB2 licensing costs save €100,000 over five years; SAN Volume Controller increases utilization of storage resources and increases resilience through mirroring data

■ ***Key Solution Components***

Industry: Industrial products
Applications: SAP® R/3® 4.6C with financials, controlling, production planning, human capital management and supplier relationship management applications
Hardware: IBM System p5™ 550 servers, IBM BladeCenter® with HS20 and JS20 Blade Servers and Brocade 26K5601 Switch Modules, IBM System Storage™ DS4300, DS4400 and DR550 storage systems, TS3310 Tape Library, IBM SAN Volume Controller
Software: IBM DB2® optimized for SAP software, IBM Tivoli® Storage Manager, Tivoli System Automation for Multiplatforms, Tivoli Enterprise Console, Tivoli Monitoring
Services: IBM Premier Business Partner CENIT, IBM Software Group Information Management Services

IBM | SAP®

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CIO
Pilz GmbH & Co. KG

Pilz GmbH & Co. KG was founded in 1948, and has a distinguished history as a leader in the field of industrial automation and safety. Based in Ostfildern, in southern Germany, the company has expanded internationally, with 1,200 employees at 24 sites around the world.

Pilz sells a wide variety of control and communication systems, sensors, signaling devices, relays and operator terminals, motion control, as well as providing consultancy and training to the industrial sector. Its key proposition is not simply to automate its customers' production lines, but to automate them safely.

To maintain and improve safety standards, the company lays considerable stress on both quality control and the development of new products. Tight control of the production line is a vital factor in quality assurance, while a research and development budget depends on internal efficiency in all areas of the business, from financial controls to human resources and supply chain management.

Pilz realized that the best way to achieve this kind of efficiency lay in the implementation of a system running ERP software from SAP, and the company now relies on its SAP software to handle many aspects of its operations. Ten of its 24 sites – and around 400 users – work with SAP R/3 applications, while another eight are due to move to SAP software in the next two years.

Building a resilient infrastructure

The company initially deployed its SAP software on two IBM System p 650 servers in separate data centers, linked by IBM HACMP™ (High Availability Cluster Multiprocessing) technology to provide a redundant and resilient infrastructure. The system was supported by an Oracle database, stored on an IBM System Storage DS4400 storage system, while other applications were hosted on a pair of IBM BladeCenters running Linux, both linked to an IBM System Storage DS4300.

Pilz decided to upgrade and restructure its infrastructure to create an integrated storage solution, and worked with CENIT, an IBM Premier Business Partner, to deploy two new IBM System p5 550 servers and use IBM SAN Volume Controller (SVC) to virtualize the capacity of both DS4000 storage systems. CENIT has proven its expertise in this field.

IBM SAN Volume Controller is designed to combine storage capacity from multiple vendors into a single reservoir of capacity that can be managed from a central point. Running in this case on the p550

servers, SVC helps Pilz increase storage utilization by providing the SAP applications with more flexible access to capacity. The combined storage volumes can be controlled from a single interface, without making changes to the physical storage infrastructure. Should storage requirements change, Pilz can reallocate new or existing capacity, and match the cost of storage more accurately to the value of the data.

"Because both disk systems are now available to the SAP and the Linux applications, SAN Volume Controller has helped us become a lot more flexible in allocating storage capacity," says Jörg Stubbe, CIO at Pilz.

A new database platform

During the storage reorganization program, Pilz took the opportunity to migrate its databases from Oracle to IBM DB2 – a proven and standardized process which took just one weekend, thanks to specialist support from IBM Software Group Information Management Services.

"As a medium-sized company, we found Oracle overly complex, and not ultimately suitable for our business needs," says Jörg Stubbe. "DB2 is fully integrated into the DBA Cockpit within the SAP Computing Center Management System, which makes it much easier to use – it's an ideal platform for our SAP software environment, and reduces our administrators' workload by around 10 per cent. We found it very easy to rapidly acquire the necessary skills to operate and maintain our new DB2 database for the SAP software environment. And in addition, the difference in licensing costs will save around €100,000 over a five-year period."

SAP itself has selected DB2 as the strategic database platform for its internal business systems, so Pilz can be confident about migrating its SAP software landscape to DB2. IBM DB2 software offers a proven data server for SAP solutions, with integrated recovery features such as Tivoli Systems Automation for Multiplatforms (TSA) for high availability. DB2 is designed to decrease total cost of ownership with lower licensing and maintenance fees and simplified installation and administration. DB2 also offers leading performance, and has established an unmatched record on a wide variety of industry-leading SAP benchmark tests.

Jörg Stubbe adds: "The whole project was a great success. IBM was able to plan the migration precisely, and we were able to carry it out in a single weekend, during our usual planned maintenance slot. IBM and SAP also put considerable effort into knowledge transfer at the start of the project, helping our in-house team get the most out of the new solution from day one."

Ensuring high availability

Pilz also decided to implement a new high availability solution, using IBM Tivoli System Automation for Multiplatforms to detect hardware and software failures in the p5-550 application servers and, where possible, restart systems automatically. The reduction in manual intervention offers lower operational costs, faster response times and better service to the business users.

The Tivoli solution is an integrated offering with IBM DB2, and ensures automated failover from the primary to the secondary p5-550 server. Its

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multiplatform capabilities will enable Pilz to extend this functionality to the BladeCenter-based Linux environment in the future.

"Our previous high availability solution depended on scripts, which could be difficult to modify without expert knowledge," says Jörg Stubbe. "The policy-driven approach and browser-based GUI of Tivoli System Automation makes it easy for us to keep our SAP software environment available for business users."

IBM Tivoli System Automation for Multiplatforms can provide high availability for AIX and Linux applications through policy-based self-healing. TSA's sophisticated knowledge about application components and their relationships allows quick and consistent recovery of failed resources and composite applications, either on the same machine or on another system in an AIX or Linux cluster.

Operating TSA is simple, using a web-based single point of control. Complexity is greatly reduced through operations at the business application level.

Pilz also uses Tivoli Storage Manager Extended Edition to improve its backup, restore and archiving abilities. The software helps improve Pilz's ability to recover in case of disaster by creating a detailed plan and introducing a high degree of automation.

Improving resiliency

Through a combination of leading IBM hardware and software technologies, Pilz has achieved a solution that offers a considerable improvement in resiliency for its SAP software environment, while increasing ease of use and reducing licensing costs.

"We rely on SAP to provide the tools we need to run our business efficiently," explains Jörg Stubbe. "If our SAP software environment were to fail, operations would be disrupted and productivity would suffer – not to mention the risk of losing business-critical data. The alliance between IBM and SAP has helped us provide a stable, fully redundant infrastructure while reducing costs and workload for our IT staff."

With SAP software providing in-depth management reporting on every aspect of Pilz's production and financial operations, the company is able to devote resources to its research and development wing, helping to improve its products and hold its position as a market leader.

Jörg Stubbe concludes: "The combination of IBM, SAP and our in-house team has provided an end-to-end solution for Pilz's ERP landscape – one that will serve as a firm basis for expansion in the future."

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