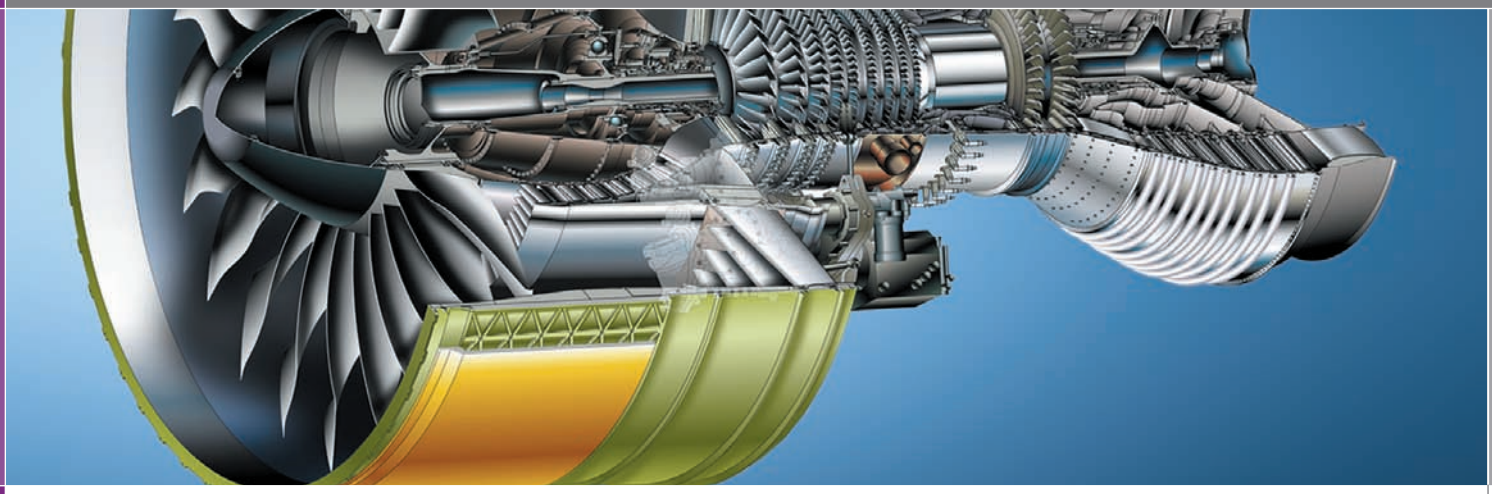
SUCCESS STORY

MTU AERO ENGINES



Optimized IT Infrastructure Meets Shifting and Growing Global Market Requirements

"SGI allowed us to consolidate and integrate our SAP APO system landscape on the standard Linux OS-based MTU platform. By doing so, we were able to cut the IT operating costs for SAP APO by over 20 percent compared to our previous architectures."

– Norbert Diehl, Head of IT Technology, MTU Aero Engines

For more than ten years, MTU Aero Engines has relied on SGI® servers to drive its complex technical IT operations. Recently the company moved to further optimize its database environment by migrating its SAP® component for production planning, SAP Advanced Planning & Optimization – SAP APO, to its existing Linux® OS-based SGI® Altix® server platform. The result is that MTU has cut operating costs by more than 20 percent compared to its previous architectures, while still fulfilling the high resource requirements demanded by SAP APO. To further leverage the potential of SGI for the SAP solutions, MTU, which uses Oracle® 9i/10i as its database system, now plans to consolidate additional SAP components on SGI Altix platforms.

Meeting the Demands of the Enterprise Market

Originally designed for high-performance computing in scientific applications, SGI Altix servers are now increasingly being deployed to meet the needs of Enterprise customers such as MTU.

"As we expand internationally, SGI platforms enable us to adapt our IT infrastructures to meet shifting and growing global market requirements," said Norbert Diehl, IT manager of technology, MTU. "Our IT systems have to be able to process millions of transactions every day and have the power and scalability to handle complex monitoring, reporting, and analysis tasks. SGI delivers the performance we need to meet the demands of our worldwide enterprise."

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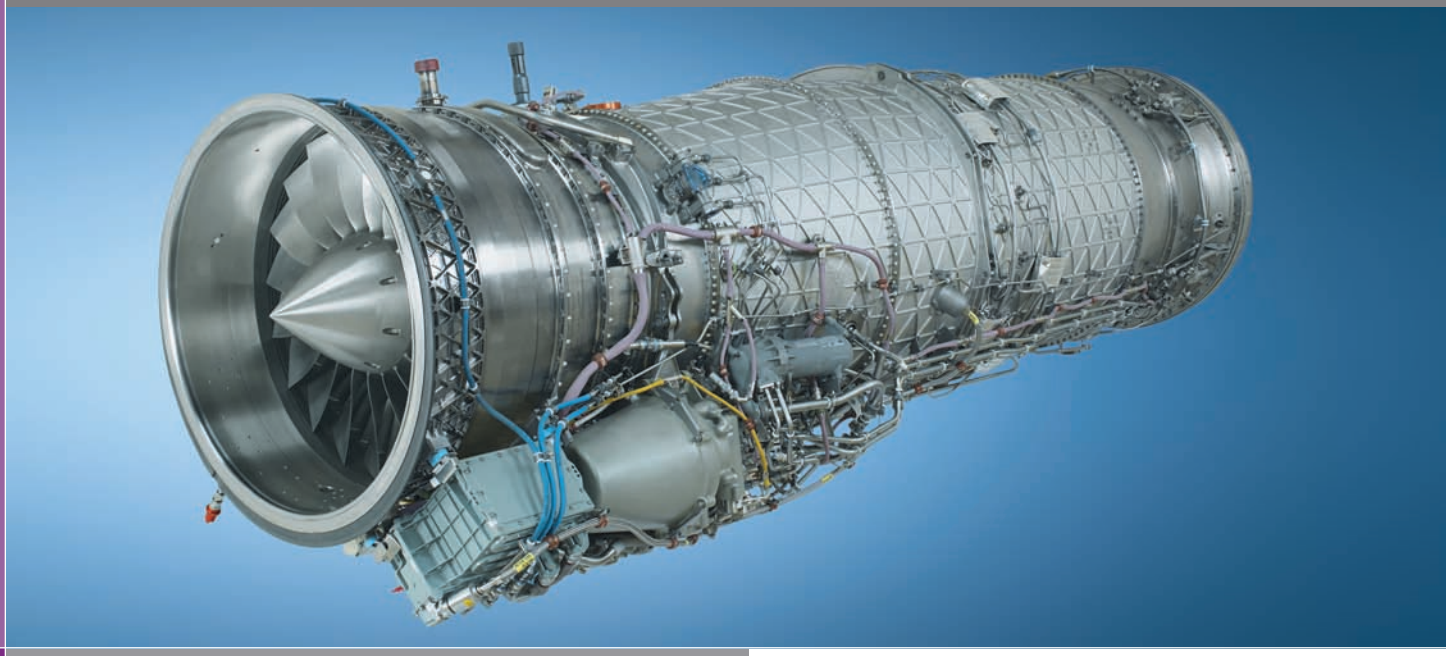

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Step-by-Step Migration

MTU embarked on the SAP APO project in mid 2005. To manage the project, the company assembled a team that leveraged the combined expertise of representatives from MTU IT Technology, service provider T-Systems and SGI. Working together, the team was able to design and implement the new system in just six months.

In the first stage of the project, the team upgraded three SGI® Altix® 350 servers already in use at MTU. To optimize the servers for the new SAP application, they developed a configuration in which one server was used for live operation of the SAP APO component, another was converted for quality control and development and a third was deployed as a "hot standby" system which operated in parallel.

"By recycling these relatively new hardware platforms, we were able to prolong their operating life by four or five years," said Norbert Diehl. "This alone represents a cost savings of 15 to 30 percent."

After Oracle tests had been successfully completed on the SGI Altix 350 servers, the SAP APO component was installed, tested and put into operation in parallel with the production system. The team then set up and tested the system's high-availability functions and provided access to the new IT infrastructure for a limited number of users. In November 2006, the full range of SAP APO functions was made available. Today, around 150 MTU employees use SAP APO on SGI Altix 350 servers.

Impressive Results in the Test Phase

The ability of SGI computer technology to maximize both the performance and availability of even very large SAP applications was immediately evident to MTU in the test phases.

"The SGI platforms had already proven to be the best platforms for our technical IT applications," said Diehl. "Even in extremely data-intensive environments, they run faster and are more stable than proprietary platforms – and they give us the flexibility we need to satisfy the highly complex requirements of our business areas. The combination of SAP and SGI solutions provided impressive results right from the start."

Driving Significantly Faster Data Transfer

SGI Altix servers combine the company's high-performance NUMAflex® connection with a global shared memory architecture running on Intel® Itanium® processors and open-source Linux operating systems.

NUMAflex is uniquely designed to share system memory globally, across nodes. As a result, data records do not have to be split into smaller fragments for handling by individual processors. Instead, all processors in the system environment have one uniformly addressable memory space where they can jointly handle data. This means that data can be transferred up to 200 times faster than in traditional clusters, so that even highly complex calculation problems can be solved in record time.

Through its global shared memory approach, the SGI Altix platform provides applications with a high level of performance, scalability and availability, enabling access to complex data records in real time and making records easy to manage and maintain. Globally accessible memory also allows companies to reduce their Total Cost of Ownership (TCO) and maximize their Return on Investment (ROI).

Costs can be reduced further by combining SGI technology with the highly scalable Linux operating system. Using the open-source Linux platform, companies can consolidate their existing IT resources more effectively, implement new technologies more easily and adjust their IT strategies flexibly to address shifting business requirements.

Successful Partnership with SAP

Like MTU, an increasing number of SAP enterprise customers worldwide are opting for SGI servers to satisfy the growing need for dynamically extendable computing platforms. Both SGI and SAP share the goal of providing users with easily upgradeable, powerful and highly available technologies. The two companies provide complementary technology that makes it possible for customers to respond to shifts in market requirements while working more profitably, faster and systematically.

SGI and SAP are both committed to open-source technology, which can bring about significant savings in both direct and indirect IT costs compared to closed operating systems. SGI is a long time member of the SAP LinuxLab, where SAP collaborates with selected partners to provide enterprise customers with the best Linux performance and functionality.

WIth SAP certification, SGI Altix enterprise customers can leverage the benefits of the Linux OS-based server line to operate even the most advanced SAP system landscapes.

“SGI is an important hardware partner in the SAP LinuxLab,” said Helge Deller, development manager at the SAP LinuxLab. “Altix servers provide enterprise customers with powerful computers that ensure the performance, high availability and stability of SAP systems, while also allowing for dynamic expansion.”

MTU Opts for Linux

MTU plans to further leverage the benefits of open-source technology in the future. As a result of the successful migration of its technical applications, the company now intends to convert other business IT systems to Linux OS-based hardware platforms, migrating additional SAP components to SGI Altix servers.

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"Our first major SAP migration project has shown us that Linux is ready for deployment in the Enterprise market," said Dr. Friedemann Ost, head of IT Services and Technology (FIS) at MTU.

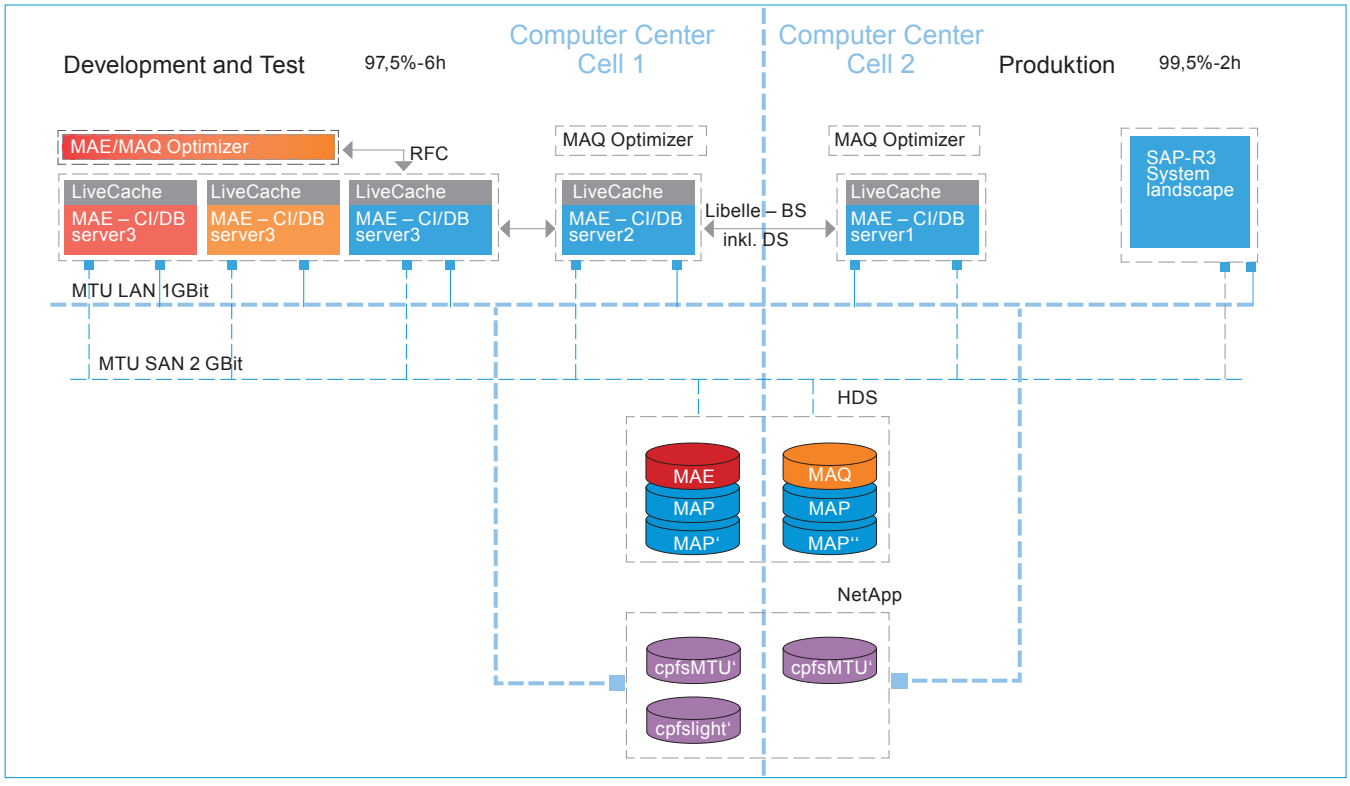
"SGI enables us to consolidate and integrate our SAP processes along the entire value chain using a standard platform on Linux," added Norbert Diehl. "This makes it possible for us to provide high-performance systems in the Enterprise environment and consolidate know-how between engineering and enterprise areas. By doing so, we can boost the quality of our system landscape considerably."

MTU Aero Engines

MTU Aero Engines, headquartered in Munich, Germany, develops, produces, sells and maintains commercial and military aircraft engines - in all thrust and power categories - as well as stationary industrial gas turbines.

MTU also plays a major role in the military domain. As the lead industrial partner to the Bundeswehr, the unified armed forces of Germany, the company is responsible for nearly every type of aircraft engine operated by the German defense force.
MTU is represented internationally by subsidiaries in all key regions and markets, with 6,700 employees worldwide.
www.mtu.de

Linux OS-based SAP-APO architecture



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