

HP Integrity servers help keep planes and passengers in the air



“Our intention by consolidating on HP Integrity servers was to lower business costs and that was fully met. Operational costs have been reduced by ten per cent and we are still able to deliver a better service.”
Dr. Andreas Roth, CIO, Lufthansa Technik Logistik

Objective:

Lufthansa Technik Logistik GmbH (LTL) supplies maintenance, repair and overhaul (MRO) services to 450 airlines worldwide. Its heterogeneous server environment delivered low performance and high maintenance costs and also had availability and scalability issues.

Approach:

- Working together with HP, Lufthansa Systems consolidated the 18 old PA-RISC machines down to two HP Integrity Business Critical Servers (BCS).
- It transitioned LTL from PA-RISC to Itanium.
- HP MSL tape libraries and EVA storage arrays were provided for backup and storage.
- They were formed into two identical server and storage systems, connected by SAN switches to create a high availability mirrored environment.

IT improvements:

- Some applications run up to 300 per cent faster on Itanium.
- LTL has been able to create a powerful test environment that mirrors its production environment.
- The whole environment is simpler, more flexible and easier to maintain.

Business benefits:

- Maintenance and support costs have been reduced by ten per cent providing excellent price/performance ratio.
- Crucial system availability means that LTL can keep its customer's planes flying.
- This increases its ability to compete in its aggressive market.

Every minute an aircraft is on the ground it is losing money and unplanned delays can destroy flight schedules. Getting the right parts to the right place at the right time is crucial and that is the expertise of Lufthansa Technik Logistik (LTL).

Part of the Lufthansa Technik Group, a world leading provider of maintenance, repair and overhaul (MRO) to the air transport industry, LTL services more than 450 airlines and aircraft operators. From the smallest electrical switch for a Boeing 737 coffee machine to a seven tonne Boeing 747 Jumbo engine, it has over 420,000 stock items. Its total supply chain management systems include transportation, materials sourcing, storage and distribution and providing 24-hour Aircraft On Ground (AOG) services worldwide.

If those systems fail, the knock-on effects can have serious consequences for the world's airports, airlines and passengers. To prevent this, LTL needed highly available systems with the power, flexibility and capacity to support its complex software stack. This is a mix of both standard and bespoke systems. It includes standard SAP Enterprise Resource Planning modules, Oracle databases with customised applications such as tracking and tracing, and application integration platforms like DataStage and WebLogic from BEA systems. There are also many specialised logistics applications for such activities as shipping, forwarding, warehouse management and customs.

LTL also needed the scalability to cope with its rapid growth, the best price/performance ratio and a reduction in management complexity. Situated in Hamburg, Germany, the company's IT department supports some 1,000 users at its two main locations in Frankfurt and Hamburg and its service provider Lufthansa Systems ticked all the right boxes with a combination of HP Integrity Business Critical Servers (BCS) and HP storage solutions.

Need for flexibility

“We had 18 mainly PA-RISC servers running a dozen applications and the performance was no longer sufficient,” says Dr. Bernd Pape, IT project manager

Customer solution at a glance

Primary applications

- Enterprise Resource Planning, databases and logistics

Primary hardware

- Two HP BCS Integrity rx8620 with a total of 22 Itanium CPU
- Two HP StorageWorks MSL 6060 libraries
- Two HP StorageWorks EVA 8000 storage arrays
- Two SAN switches

Primary software

- HP-UX
- SAP
- BEA WebLogic
- DataStage
- Oracle databases
- HP OpenView Data Protector
- Various bespoke logistics packages

HP Services

- 24x7 proactive service and support

with LTL. "We had insufficient online storage and backup capacity, and our heterogeneous environment meant very high maintenance costs. It was also difficult for us to create a testing architecture that was similar to our production environment so we could never draw good conclusions from any tests we did.

"We wanted to have a more flexible and scalable architecture and to reduce our maintenance costs."

Lufthansa Systems, which is responsible for 95 per cent of LTL's IT, consolidated the 18 old servers down into just two HP BCS Integrity, simplifying the whole environment and transitioning LTL from PA-RISC to HP-UX. There are just two other servers outside the Integrity platform running Linux. For high availability, the environment is configured into a ServiceGuard cluster with the two Integrity servers and identical HP EVA arrays connected by redundant SAN switches to create safe mirroring of data.

"The system is designed to provide 99.5 per cent availability and we are now working on concepts to provide zero downtime."

Christoph Rothe, project manager, Lufthansa Systems

Two dedicated partitions have also been created in the Integrity servers to provide LTL with a quicker testing environment that is on a par with its production environment.

Realistic testing

The new HP Integrity servers have not only given LTL the scope to put more power into its systems by adding CPUs but it has also gained an enormous increase in its storage capacity – three times as much as before and with the scope to increase again!

"The system is also much more flexible than it used to

be," adds Dr. Pape. "We recently had a disaster when one server broke down. We switched over to the other server in the cluster so we could run all the applications on just one side and it was the ability to flexibly re-allocate our resources that made this possible.

Cost savings

"The ability to prevent disasters is what will really be of benefit to the efficiency of our company because we are a business that runs 24 hours a day, seven days a week. Just one short failure in our systems can lead to airplanes staying on the ground."

"We have already benefited from the flexible and scalable resource allocation and we have achieved a cost reduction on maintenance and service of about 10 per cent."

Dr. Bernd Pape, IT project manager, LTL

In addition to saving ten per cent on maintenance and service costs, LTL foresees even more savings in the future when scaling up this system will be much cheaper than it would have been with the old heterogeneous environment. Employees have also seen the benefits with the Integrity servers powering performance increases of 300 per cent with some applications – notably the central SAP and order processing systems.

Dr. Andreas Roth, CIO, LTL added: "Having HP Integrity servers is definitely going to help high availability and the virtual server concept running through several CPUs makes the environment very flexible. The management of our systems has certainly been simplified and we are now much more able to meet the high service standards that are expected of us."

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