



Deutsche Telekom AG: The largest SAP HR implementation runs on IBM S/390.

Deutsche Telekom AG is the largest independent European telecommunications company. With about 174 000 employees it had a turnover of nearly DM 70 billion in 1998. Apart from the parent company, with its more than 200 divisions, there are numerous other subsidiaries that belong to the parent such as DeTeMedien and DeTeMobil.

DeTeCSM (Deutsche Telekom Computer Service Management), a further subsidiary of Telekom with 5 300 employees, maintains a network of some 3 200 servers and nearly 200 000 clients and supports the users of over 450 Telekom applications. The users of DeTeCSM services include not just the subsidiaries but also external customers.

In the mid-nineties it became more and more obvious to Deutsche Telekom that an Executive Information System (EIS) was becoming increasingly essential: on the one hand, the payroll needed reorganising and on the other the personnel administration was becoming ever more complex and unintelligible.

It was obvious that these plans could only be effectively realised if first of all the personnel administration were restructured. The position was, that in each business unit, the operation ran on an independent basis on a total of 220 decentralised UNIX* servers. The data for employees who were transferred between the business units would follow them around on a diskette. In some instances there would be up to one hundred such cases per day.

The SAPHIR project, which Telekom entrusted to its subsidiary DeTeCSM at the beginning of 1997, had as its aim the consolidation of the 220 decentralised servers into just one database in the SAP R/3 HR (Human Resources) module and thus to remedy the situation with a single centralised personnel administration system. Now Deutsche Telekom runs the largest productive HR system in the world with 10 000 users. The approach to implement a logical centralised system was vetoed, because that would have meant a completely open-ended programming expenditure for the construction of an EIS database.

Industry	Telecommunications
Application	SAP R/3 Module HR
Software	OS/390 AIX
Hardware	S/390 Parallel Sysplex RS/6000 SP

DeTeCSM



Telekom Head Office Bonn
(A photograph: Deutsche Telekom AG)

IBM cluster outperforms UNIX Highend Server

The alternative of a physically central server appeared to be in jeopardy for a while. Frank Hoffmann, overall project manager from Deutsche Telekom AG comments: "Although at first all suppliers claimed that our requirements were 'peanuts', both they and we soon had to change our minds. To be absolutely certain, I demanded from the suppliers not just a theoretical solution to our problems, but the provision of a test system that we could use to benchmark our intended system."

IBM put up a test configuration comprising a Parallel Sysplex cluster with six S/390 servers with DB2 (as SAP R/3 database server) and a 60 node RS/6000 SP as SAP R/3 application servers. Additionally there were two "RVA Turbo" storage systems. This configuration was set against an array of five highend servers and eight disk systems of a competitor, which was claimed to be the best performing UNIX system according to SAP standard benchmarks.

Within the framework of the stress test, SAP R/3 HR was installed on both platforms and based on a volume of 240 000 records and 10 000 registered users, both systems had to process eight typical Telekom business applications with interactive and batch workloads. During the run, DeTeCSM measured the response times and CPU loadings, at first with 3 200 and later with 4 500 active users. Apart from that, it was checked how many users the two systems could sustain in total for the mix of the eight business applications.

The IBM configuration passed all three tests. The system from the competitor only managed to meet one of the three criteria. Moreover, whilst the IBM cluster showed that it still had ample reserves in each of the tests, the UNIX system was always at its limits. To quote the project leader, Dr. Ulrich Schulz: "It was only when we saw the very different results of the benchmarks, that we realised what high performance demands we had made on each of the platforms. Particularly for batch processing, there is no alternative to IBM S/390. As far as the online business is concerned, with 4 500 concurrent users, we will be running one of the largest SAP systems in the world."

Dr. Ulrich Schulz, IT Manager SAPHIR project, DeTeCSM:

"IBM was convincing right from the start. Both the benchmark and the ensuing implementation and transfer of the data were carried out in the most professional and reliable manner. Just eight months after the benchmark we were able to start with production. We are confident that with IBM and S/390 we have made the right decision."

DeTeCSM in close co-operation with IBM and SAP

The results of the benchmarks illustrated the strengths of the S/390 platform in an SAP R/3 productive environment with large volumes of data and greatly impressed the persons responsible. "Especially the proof that IBM was in a position to not only offer us a solution on paper but also one that works in practice", acknowledged Dr. Schulz, "was the decisive factor for our S/390 decision. We are now confident that we shall be able to expand in future to meet the growing requirements of the business."

With this convincing demonstration of scalability and performance from IBM, or to use the words of Dr. Schulz: "With this clear evidence of feasibility", the actual go-ahead for the SAPHIR project was given. Within two years DeTeCSM, with significant assistance from both IBM and SAP, implemented the largest central SAP R/3 HR application worldwide. DeTeCSM was not only responsible for the planning and installation of the whole supporting infrastructure, from servers, PCs and printers to the Intranet and its associated security features. The project team also had innumerable co-ordination functions and user education to be carry out as well as producing all the necessary documentation.



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