

UNIVERSITY HOSPITAL OF TÜBINGEN DEPLOYS SERVER VIRTUALISATION FROM TRANSTEC

Less hardware – more performance – high scalability



“The most important aim was to deploy virtualisation to decisively enhance the IT performance in the radiology department and to keep new hardware costs to a minimum. The transtec solution has kept its promise and achieved all our goals”

OLIVER LENZ, SYSTEM ADMINISTRATOR

THE COMPANY

The University Hospital of Tübingen (UKT – Universitätsklinik Tübingen) has established itself as one of the leading German university medical centres. The German Science Council has certified the hospital as well as the medical faculty for its excellent services in the fields of research, teaching and healthcare and has acknowledged the university hospital's “pacemaker” function in Germany.

The radiology department employing 347 employees offers its patients medical imaging services using sonography, digital radiology (X-rays), angiography, multislice spiral computed tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET/CT) and minimal invasive oncological and vascular therapies. Today, the fields of medical diagnostics, operative planning, early diagnosis, medical prevention and therapy would be unthinkable without these procedures.

The department for radiology is part of the University Hospital of Tübingen which has established itself as one of the leading German university medical centres. A total of 347 employees work in the radiology department and apply varying methods of medical diagnostics, operative planning, early diagnosis and medical prevention to give doctors the possibility of conducting medical

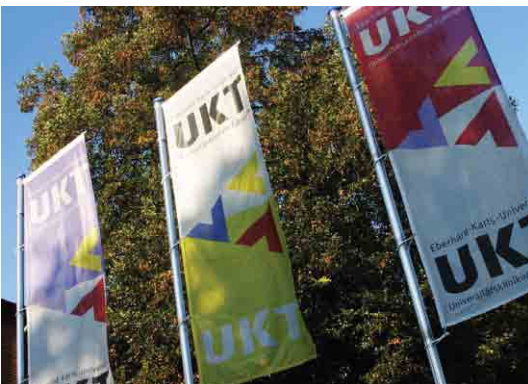
imaging on patients using sonography, digital radiology (X-rays), angiography, multislice spiral computed tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET/CT).

Up until recently, the radiology department of the UKT (University Hospital of Tübingen) integrated eleven servers from different manufacturers. These were used as file servers, terminal servers, application servers and domain controllers (active directory). A symptomatic feature of this type of infrastructure with ever-growing requirements is a hardware configuration from a variety of manufacturers. This presented IT managers with major problems in terms of administration and spare parts support. In response to these problems, the department decided to reconfigure the server infrastructure with homogeneous, economically viable and above all more powerful hardware.

VIRTUALISATION PRESENTS A CONVINCING SERVER CONCEPT

transtec delivered the most convincing concept from all the solution providers who tendered their offers. The company delivered extremely high-performance hardware, maximum flexibility and high fail safety. The TCO was also the lowest among all the tendered options.

The key to transtec's successful tender is virtualisation. The transtec solution involved consolidating the entire physical



server landscape with the exception of the exchange mail server and the backup server. The workload from the previously employed eleven servers was transferred onto just one high-performance transtec CALLEO server system which is used as a virtualisation server. A mirrored Citrix XEN (pool) is used for virtualisation. A second, redundant CALLEO server is deployed to guarantee the necessary reliability and availability: if the productive server goes down, the virtual computers running on this server are automatically rebooted on the redundant system within seconds by deploying HA technology (high availability) implemented in XEN. iSCSI SAN on two transtec 2350L data storage servers with active-passive mirroring provides the necessary storage for both virtualisation servers. In the event of a problem/breakdown of a Data Storage Server (DSS), the replicated data pool can be utilised on the DSS still in operation.

ENHANCED PERFORMANCE, LESS HARDWARE, LOWER COSTS

Less hardware is not just important for simplifying procedures. Pooling IT resources also presents energy-saving benefits. By reducing the energy consumption of the consolidated IT, this results in lower electricity costs, less server centre cooling requirements and reduced system maintenance.

SEAMLESS MIGRATION

Once the approval was given and the order was placed by the University Hospital, transtec delivered its solution in real time. The server integration was also exemplary. “The system was reconfigured

without the affected users noticing any different” explains Oliver Lenz, System Administrator at the University Hospital in Tübingen for the radiology/diagnostic and interventional radiology departments. A 1-day training course at transtec was also included in the project which was held later on the shipped system.

Today, transtec’s virtualisation solution is in operation as scheduled and has met or even exceeded all expectations.

THE SOLUTION

The solution designed and implemented by transtec virtualises the customer’s file servers, application servers and domain controllers and fully replaces the previous heterogeneous server infrastructure comprising eleven outdated individual servers. All 330 existing clients installed with varying operating systems and diverse system architectures could be seamlessly integrated into the new infrastructure.

A mirrored Citrix XEN on two transtec CALLEO servers each with two Quad-core Xeon™ Processors and 32 Gigabytes of RAM are deployed for virtualisation. The required storage capacity for this virtualisation server is provided by a redundant iSCSI SAN via two transtec 2350L Data Storage Servers with asynchronous data replication.