



LÖSEV VIRTUALIZED ITS SERVERS, ACHIEVED SPEED AND EFFICIENCY GAINS



CUSTOMER
LÖSEV

WEB SITE
WWW.LOSEV.ORG.TR

INDUSTRY
HEALTH

LOCATION
ANKARA, TÜRKİYE

CHALLENGES

- Difficulties in management, updating, monitoring and proactive approach due to physical servers
- Long-term backup, performance, response times

SOLUTION

With VDI technology, LÖSEV has gained an infrastructure that is secure, easily manageable, easily adapts to future needs, reduces computing costs, and is accessible from anywhere and at any time. It could be used for many years and the total cost of ownership was relatively low.

BUSINESS OUTCOMES

- With VDI technology, access to its own desktop computer with all the technologies like PC, notebook, thin client, tablet and even smart phone
- The user is able to connect to the desktop from any other hardware he or she wants in case of a hardware failure.
- Low-cost

LÖSEV's mission is to serve its patients round o'clock by means of the LÖSEVKENT project. The hospital provides hope for children with leukaemia for years with uninterrupted service, internal and external customer satisfaction and austerity projects. LÖSEVKENT implemented solutions that run 99.9% of the infrastructure seamlessly and runs internet and audio infrastructure as both terrestrial and radio-link backup. With VMware partnership in LÖSEVKENT project, LÖSEV has the opportunity to virtualize server, desktop and storage systems using a common platform, and virtualize the entire platform with a single, end-to-end solution.

The Foundation for Children with Leukemia has been working with all their hearts and souls to meet all the needs of children with leukaemia since 1998. LÖSEV, established the Hospital for Children with Leukemia LÖSANTE in Ankara in 2000, that provides the latest facilities and advantages of modern medicine for children with leukemia, and in 2015 they moved their operations to LÖSEVKENT location in which latest technologies implemented, equipped with intelligent building systems with 500 beds and all clinical departments. Since children didn't have a hygienic school environment and were excluded by their peers for wearing mask, LÖSEV built a comfortable living space where children with leukaemia and their families can stay during treatment.

Challenges

Prior to moving to LÖSEVKENT from the LÖSANTE campus, all implementations were working on physical servers with far more limited facilities because there wasn't any virtualization platform. Therefore, LÖSEV had serious difficulties in terms of management, updating, monitoring and having a proactive approach to solve problems. A personal computer malfunction or a service failure that could be experienced at a critical point was a vital topic for LÖSEV, because a hospital should serve 24/7 to its patients without interruption.

For LÖSEV, LÖSEVKENT means using its systems more effectively, collaborating with VMware to start using virtualization technology in its new hospital. Outcome of this partnership helped LÖSEVKENT to establish a system in which the server family has fast and efficient features in terms of management, redundancy, performance, shortening of the turnaround times. Now, operations can be done seamlessly. One of the main goals of LÖSEV is to be able to carry out its operation and IT service continuously. In the past years, the additional work needed for operations such as security, updating, patching and similar operations of all computers made through personal computers and physical servers, with virtualization the amount of work needed was reduced. With VMware partnership, LÖSEV aims to enhance patient satisfaction by

“With the VMware partnership, we had a completely virtualized, fast and flexible IT infrastructure.”

VMWARE FOOTPRINT

- vSphere with Operations Management
- Horizon Advanced (600 NU)

VIRTUALIZED APPLICATIONS

- Hospital Information System
- Laboratory Information System
- Radiology Information System and PACS
- Microsoft Office

PLATFORM

Server Hardware:

- Huawei RH2288H
- vSphere Enterprise Plus 6.5
- Windows Server 2012R2
- SUSE Linux Enterprise Server

BUSINESS PARTNER

- VMware products were deployed and deployed by the VMware Professional Services team.
- Virtualization and maintenance of VDI platforms provide Forte with a different service contract.

transferring human resources from IT department to health services. Since LÖSEVKENT is an institutional foundation the forefront policies target the principle of doing business with little resources for saving in technological investments.

Solution

LÖSEVKENT initially aimed to reduce the total cost of the IT infrastructure during the project design phase and to present a solution that underlines the vision of the foundation. For this reason, LÖSEV adopted virtualization technology and built its new hospital with VMware solutions, virtualization of information, server and desktop (VDI). The most important factor in choosing VMware as a virtualization technology is the ability to virtualize everything from storage systems to servers using a single, common platform. Thus, the entire platform is virtualized with a single end-to-end solution, achieving a cost-effective and sustainable solution.

Thanks to VDI technology, LÖSEV is presented with an infrastructure that is safe, easy to manage, easily adapts to future needs, reduces the computing costs, and is accessible from anywhere and at any time. The main goal was to create a low total cost of ownership that can be used for many years.

In LÖSEVKENT, VMware vSphere Enterprise Plus with Operations management 6.5, Horizon Advanced 7.0 and VSAN 6.5 are used, all servers run on vSphere platform and are controlled by the Operations Management module. Virtual desktops are working on the latest version 7.0. LÖSEV wanted to use its systems more effectively with the relocation and found the solution in VMware's virtualization technologies. VDI technology builds a system that is not connected to the hardware platform and makes it possible for the user to access their own desktop computer anywhere on the network with using technologies such as PC, notebook, thin client, tablet and smart phone. In the case of a malfunction in the hardware the user is using, he or she can connect to the desktop from any other hardware. With VDI technology, where employees can access machines from any location, LÖSEV is offered a infrastructure that is safe, easy to manage, adaptive to future needs, reduces computing costs, and is accessible from anywhere and at any time.

500 user-track is now completely running on VMware Horizon Desktop Virtualization technology, updates for up to 500 users can be done in less than a minute and without interrupting end-user experience. For example, a physician can look at a radiologist's view of a patient coming from an emergency department, or as a lab result, by remotely connecting from a tablet, notebook or smartphone. Due to the use of the virtual desktop, there is no data footprint on its own device. In this respect, personal data is protected.

Business Outcomes

LÖSEV has experienced significant drop in operational and initial investment costs with VMware's virtual desktop solution. LÖSEV is currently using approximately 500 virtual desktops in the hospital working through thin clients. If virtualization technologies were not used in the project, about 400.000 USD (500 PCs) would be invested only in personal computers and these computers would have to be renewed in 3-4 years on average. Given the delays in the opening phase of the hospital, perhaps the personal computers that were invested would be outdated when the hospital was full-capacity. Instead, VMware-provided thin clients completed Windows10 migrations, and thin client solution is planned to use for many years to come.

“VDI is a technology that allows you to do more work with less resources.”

Regarding the energy consumption, a personal computer in the hospital costs about 36TL per month. This means that if 500 computers are used, it corresponds to a total of 216,000 TL per year. In the case of thin client usage, this figure is about 70,000 TL per year. It amounts to 146,000 TL per year and about 730,000 TL in five years, that means only saving energy aspect enables a significant part of the investment in virtualization to be returned.

Although the initial investment cost of the VDI solution is high, LÖSEV invests in this technology to enhance its service quality and fro measurable operational benefits as well as return on investment (ROI) when the long-term effect is evaluated.

Serving individual users' personal computers, in particular, also makes the work of maintenance and support difficult personnel-wise. In this case, the operational cost will increase as more support personnel are needed. In addition, when thin clients are used, maintenance and support costs are lower than PC's, and since new machine installation, updating and support can be done through a single platform it would be easier and cheaper to install new systems and applications. Support staff will be able to deal with more topics, which will improve efficiency within the organization. In short, VDI is a technology that allows organizations to accomplish more work with less resources.

The Future

In an environment where operating systems and software are constantly evolving and the hardware requirements of these software are constantly changing, VDI technology will help LÖSEV to adopt new technologies and lowering hardware costs as a long-term investment. When the new version of a software becomes available, it is very easy to update a single operating system and multiple it for all users by using a single console instead of loading that software to all users. In addition, the fact that the data of the users are in the data center will also provide the convenience and advantage of back up. This will provide for further data security advantage since the internal security policies of LÖSEV will be manageable from one single screen.

LÖSEV plans to further expand the use of virtual desktops with the use of AppVolumes and Instant Clone. VSAN is considered to be used in backup solutions and business continuity solutions for other storage products other than those already in use. Under the Personal Information Protection Law (KBKK), it is not possible for any information belonging to the patient to be taken out of the hospital and therefore taken into the cloud environment. Thus, the use of cloud environments is not considered unless there is a change in law enforcement.

