



Case Study

Technology that pays off.

Fraunhofer UMSICHT simplifies its IT infrastructure with the help of Server Based Computing (SBC) and thin clients from IGEL.

Business Solutions from
IGEL Technology





Early introduction of server based computing.

The Fraunhofer Institute of Environmental, Safety and Energy Technology (UMSICHT) – in Oberhausen develops, investigates and optimizes technical processes in the fields of environmental, safety, process and energy technology. Its staff of 242, look after the interests of small to medium-sized businesses, major companies and public institutions. The institutes motto “Technology that pays off” refers to this external transfer of knowledge as well as the ongoing optimization measures within the Institute.

As early as 1998 the IT team at the Fraunhofer Institute initiated a strategic review of the IT infrastructure and deployed Server Based Computing. As a result, the costs of the workstations that were switched over to SBC have now been reduced by around 40 percent. A large part of these massive savings is due to the progressive introduction of a thin client environment and a consistent upgrade programme of the back end infrastructure. Since 2001 UMSICHT has been replacing its workstation computers step by step with efficient and centrally administered thin clients supplied by IGEL Technology. “In 1998 we were chiefly motivated by technical considerations; today it is rather the economic factor that counts,” explains Christian Knermann, Deputy Head of IT at UMSICHT. “At that time our workstations consisted of some 90 Macintosh computers, and 20 Tektronix or Sun-X terminals. There were just a few PCs around as well.” In view of the increasing market penetration of Windows NT, the decision was taken to migrate gently to Windows NT 4.0 Terminal Server edition and Citrix MetaFrame. At the time this was the only practicable solution for Clients with Mac operating systems and Sun Solaris.

PCs make IT costs rocket

The Windows NT wave, and continually falling PC prices, led to a rapid increase in the number of PC workstations from 2001 on. “Like many other companies, the lower procurement costs meant that we increasingly opted for PC workstations,” the IT manager recalls. “In the course of time, however, the amount of support that was required went up and up, with a great deal of what is known ‘gym shoe administration’, (time-consuming on-site attention.) An internal study was carried out by the Fraunhofer Institute, entitled “A Consideration of Economic Viability: thin client versus Rich Client”. This came to the conclusion that a good deal of the excessive expenditure on IT resulted from the operation of the PC workstations and associated personnel costs. “It frequently happens that PC users try to solve problems at their own workstation or that of a work colleague on the basis of self-help and testing. The use of thin clients today enables us to weed out these points of manipulation.”

A thin client saves around €1000 per annum

In 2001 the terminal server farm was upgraded to more effective hardware. Since then, PCs and Macs that do not have any special local applications associated with them are being replaced step by step with IGEL thin clients. A sample calculation given in the study estimates the overall annual costs of a PC at around €3,100, including personnel expenses. The assumed basis for calculation was a pool of 320 workstation computers, of which 150 are capable of being replaced by thin clients. According to the study, in theory €1000 could be saved just in operating costs, per thin client, per year. The savings achieved at the Fraunhofer UMSICHT Institute with the 60 thin clients come to approximately €60,000 per year.

The customer

- The Fraunhofer Institut für Umwelt-, Sicherheits-, Prozess- und Energietechnik (UMSICHT) – Fraunhofer Institute for Environmental, Safety, Process and Energy Technology – in Oberhausen
- 242 employees
- The institute develops, investigates and optimizes technical processes in the fields of environmental, safety, process and energy technology



The IT manager attributes this significant reduction of the operating costs to the central administration offered by thin clients. He gives credit for further savings to the use of IGEL's efficient management software as well. "A test of involving various suppliers in the 2004 identified IGEL's Remote Management Suite as being the best solution for our purposes at the time. The GUI of the software has an exact correspondence with the local thin client interface. All the options are located at the same point. By contrast with many complex universal solutions offered by other suppliers, the free IGEL tool does not need to be run in, and allows us to manage our pools of thin clients effectively." He also speaks positively of IGEL's support services. "When we were switching from the Citrix Presentation Server 1.8 to 3.0, which resulted in performance defects in connection with Office, IGEL responded immediately and presented us with new firmware for testing in a very short time."

The challenge

- Modernization of the Server Based Computing model
- Reduction of operating costs in keeping with an economic viability study carried out internally by the Fraunhofer Institute
- To persuade users to accept the new thin client workstations

IT cost sharing

While users responded to the new workstations with noticeable reserve to begin with, in view of server performance problems, Christian Knerrmann says that IGEL has now established itself as a reliable alternative to PCs, and is in increasing demand. The IT manager provides ongoing support to the divisions on the basis of a general support fee per unit.

"The psychological effect is considerable," says Knerrmann with satisfaction. "In this way the migration process can be continued automatically, and the number of old PCs that need to be held in reserve as replacement workstations has also been reduced." Reserve PCs are in any case something that the 137 core staff no longer need. Part time employees make use of the thin client pool instead.

The solution

- Installation of 60 thin clients of the types IGEL-416 LX, IGEL-432 LX Winestra and IGEL-332 LX Compact
- Centralized management results in savings of €60,000 per year
- Efficient linking of the workstations to field offices, without losing the advantages of central administration
- Thanks to IGEL firmware Solaris terminals and PC systems can be amalgamated in a single IGEL thin client

Amalgamation of several end devices

The Server Based Computing system at the Fraunhofer UMSICHT Institute has now reached the third generation. At the start of the year the latest upgrade to Windows Server 2003 and Citrix Presentation Server 3.0 took place. At the same time the hardware was also brought up to date. The new server farm consists of four Citrix Terminal servers for up to 60 simultaneous users. Another server is available for the remote management of the IGEL thin clients, besides which there are still a few Sun Solaris and Linux servers that continue to be accessed on the basis of X11. The old terminals have now without exception been replaced by IGEL models IGEL-416 LX the IGEL-432 LX Winestra or by the IGEL-332 LX Compact connecting via ICA and or X11. Thanks to the Linux-based IGEL firmware, the workstation PC and Solaris terminal can be amalgamated into a single device.

Continuous extension of the system

On the expiry of the PC lifecycles, Christian Knerrmann would like to replace more workstations with thin clients – preferably ones that can access centrally available applications like MS Office, Corel Graphics Suite or the ERP and DMS system SIGMA developed by the Fraunhofer Gesellschaft. "The IGEL thin clients give us a centralized management system that is easy to handle, and we don't need to wear out our shoes. This makes it possible for us to keep on reducing the costs of the desktop. The solution also enables us to connect effectively with the workstations of the field offices, without losing any of the advantages of central administration and data storage," says Knerrmann in summary.

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