



A New Generation

The Department for Information and Communications Management within the local government of Schleswig-Holstein has been successfully carrying out a modernization program with the help of IGEL thin clients. A second generation of thin clients is now enabling strategic IT challenges to be tackled with new technical solutions.

Business Solutions from
IGEL Technology





Landtag Schleswig-Holstein counts on IT-modernization with IGEL

When it comes to IT, the local government in Schleswig-Holstein is truly at the cutting edge. This is evidenced not only by its dedicated communications media, such as ParlaTV, but also the consistently efficient arrangement of its internal IT structures. In fact, back in 2001 the information and communications (I&C) management team recommended implementing a thin client solution instead of once again merely upgrading to a newer generation of conventional PCs. “We take a close look at our IT strategy every five years,” explains Peter Engel, the I&C department head. “Back then, we determined that it would be far better for us to concentrate our efforts on managing a limited number of four terminal servers instead of continuing to deal with 80 PCs, each one with its own locally installed applications.”

The administration of the German federal state of Schleswig-Holstein has 69 representatives supported by some 120 staff members serving in administrative positions as well as delegates of the president of the local government. To determine in advance whether the new IT strategy would indeed produce the desired results, the I&C management first carried out a feasibility study. “By comparing fat clients to thin clients, we found out that when you include applicable server, licensing and power costs, a fat workstation costs a total of 934 euro and a thin client 708 euro,” Engel reports. “So, when you have to equip 120 users, going with thin clients results in overall savings of just about 30,000 euro.”

The Customer

- The administrative department of the local government of Schleswig-Holstein and its delegates
- 120 administrative IT workstations
- Original installation consisted of 100 PCs in a client/server environment

In making these calculations, Engel also assumed that thin clients would only have to be replaced every five or six years, while fat clients would generally have a shorter lifecycle of only three to four years. “This was yet another factor in our calculations that spoke in favor of a terminal server solution,” he adds.

The decision to abandon PCs in favor of thin clients and the resulting lower administrative load and costs were well received by both the I&C commission, in which all parties are represented, as well as its “Electronic Business Processes” working group. Since a terminal server solution stores no data on the devices, the local government’s data security committee also endorsed this new strategy. With the new system architecture, data is no longer stored on local devices, which can be stolen or somehow lost, causing the data to possibly end up in the wrong hands.

The Challenge

- Implement an efficient and flexible desktop environment
- Support video service, dualview capability, information kiosks and digital dictation by thin client
- Free-up personnel for in-sourcing projects

Modernizing the Desktop Environment

After a series of detailed tests and seeking the opinions of some key users, in 2002 the I&C department decided to go with the German thin client manufacturer and domestic market leader IGEL Technology. “What set IGEL thin clients apart from the competition was their particularly high degree of deployment flexibility and their solid management solution,” Engel recalls. Over the following six years the local government successfully used about 100 IGEL LX Winestra models (now replaced by IGEL UD3 LX / IGEL UD5 LX). However, when it came to deploying the second generation of thin clients, there were also three new major requirements that had to be met. First of all, the new units had to be able to transmit video streams of plenary sessions (ParlaTV). To ensure that these transmissions would not have a negative impact on the overall system performance, they would have to be transmitted not via the Citrix® terminal server, but directly via an additional thin client session. Secondly, the new thin clients also had to offer digital dictation. The third requirement was high graphics performance which would, in



particular, be able to support dual monitors and large-sized displays. This last prerequisite was especially important to accommodate a new document management system (DMS) that was already in place.

IGEL Proves Itself Once Again

After conducting a second detailed examination of the market, the I&C team, under project manager Thomas Pflug, selected and tested seven devices from different manufacturers. During this process, it turned out that IGEL was the only manufacturer whose products could meet all the prerequisites for the new, upgraded installation. "We decided to go with the IGEL LX Premium (today UD5 series), which not only has an integrated MPlayer, but also provides the dictation capability, sourced from Grundig, that we were looking for. Additionally, the graphics performance of this model is very good. The multiview-capable digital video output lets us use two 19" displays in our department and at the main entrance. Because of their high graphics performance, we expect to be able to use these units for about six years before thinking about replacing them," Pflug explains. The local government in Schleswig-Holstein now operates 98 IGEL LX Premium. The main entrance uses two newer LX Winestra models that run continuously. "These IGEL units have no problem running 24/7, which says a lot about their rugged build quality," Pflug notes.

The Solution

- Thin client computing with Citrix® Presentation Server™ and IGEL thin clients
- IGEL thin clients: IGEL LX Winestra (2002 to 2008) and IGEL LX Premium (as of 2008)
- IGEL Universal Management Suite

A Wide Range of Deployment Options

In a vandal-proof information kiosk on the Kiel city waterfront promenade close to the Legislature Building, two of the new IGEL thin clients are hard at work. During the summer and winter they provide live coverage of the legislative plenary sessions and, in cooperation with the city, are used to provide easy access to important public information. "These information terminals do get some intensive use, especially in the evening," Engel reports, clearly pleased. "Under these

tough conditions where they are exposed to the weather, the IGEL thin clients keep on functioning reliably." In addition, there is also another information point within the Legislature Building itself. Thanks to the Mozilla Firefox browser (Linux-based) integrated in the thin client firmware, web content can be directly provided in "kiosk mode" without having to access the government agency network. Beyond this, the IGEL firmware also offers many other software tools, clients and protocols that allow direct access to various centralized IT infrastructures. For example, in addition to Citrix® ICA, the I&C management also uses the Microsoft® RDP protocol to administer certain servers through thin clients. Other local clients enable access to virtual desktops. Although these are still not in use, they could eventually make additional PCs unnecessary and further increase the rate of thin client usage to 90%. Pflug believes that "it's perfectly conceivable to provide desktop publishing and voice recognition by means of Citrix XenDesktop™ and IGEL thin clients."

Rollout and Management

Both thin client projects were internally planned and implemented. The two-week rollout of the second product generation was carried out by one IT employee and one trainee while the IT system was still kept up and running. As far as Thomas Pflug is concerned, a key factor in the smooth switchout of the old for the new thin clients was the IGEL Universal Management Suite, which comes standard with IGEL units. "The MAC list import tool and the group-based device configuration and management are very convenient and easy to use. Firmware updates can be conveniently installed over the network. The latest version of the IGEL Universal Management Suite makes it even easier to discover the devices and divide them into groups as needed. In fact, even more user-specific settings, such as display resolutions, can be stored – a feature that's particularly important for multi-screen workstations. IGEL's policy of continuously improving its management solution and device firmware means that we'll always be ready for the future. One of the next steps in improving our system will be to introduce a public-key infrastructure and, if necessary, implement a log-on process using a smartcard or Aladdin eToken. Both of these technologies are already supported by IGEL as a standard feature."

In-Sourcing Without Adding Staff

The Citrix server farm at the state capitol in Schleswig-Holstein now consists of four terminal servers running Microsoft® Windows Server™ 2003 and Citrix Presentation Server™ 4.5. The current desktop infrastructure consists of 110 thin clients, five notebooks and twelve PCs for graphics applications. Above all, the users appreciate the noiseless operation and small desktop footprint of the thin clients. The resources that have been freed up by deploying thin client computing can now be used in administration to provide applications that used to run on mainframe systems. “Over the past six years, we’ve greatly increased the strength of our IT network. Despite this, with the help of new technologies and improved management processes we haven’t had to hire any more personnel. At this time, we have no plans to outsource services. Keeping everything in-house greatly enhances data security.” Peter Engel is very happy with the decision to use IGEL products again. “Our latest thin client generation meets all of our expectations, so that we can now confidently look forward to having few, if any, problems over the next six years.”

Model Calculation (constant operation):

Power consumption per PC ¹	96 W
Power consumption per TC incl. share of server power and server cooling ¹	44 W
Power savings for a thin client compared to a PC	52 W
x 24 hours per day	1248 Wh
x 365 days per year (constant operation)	455,5 kWh
Annual power savings² from:	
- 1 thin client workstation	68,33 €
- 100 thin client workstations	6.833 €
Annual drop in CO₂ output³ from:	
- 1 thin client workstation	287,0 kg
- 100 thin client workstations	28,7 t
Percentage reduction in power usage and CO₂ emissions	54%

- ¹⁾ Average share of effective power (Source: Fraunhofer Institute for Environmental, Safety and Energy Technology (UMSICHT) / IGEL Technology: Environmental Comparison of PC and Thin Client Desktop Equipment (http://it.umsicht.fraunhofer.de/TCecology/index_en.html))
- ²⁾ Base electricity rate assumed to be = 0.15 kWh
- ³⁾ Production of one kWh of the German power mix releases 0.63 kg CO₂

Germany (HQ)

IGEL Technology GmbH
Schlachte 39/40
28195 Bremen
Germany
Tel +49 (0) 421 1769 2240
Fax +49 (0) 421 1769 3302

United Kingdom

IGEL Technology Ltd
1210 Parkview
Arlington Business Park
Theale · Reading · Berkshire
RG7 4TY · UK
Tel +44 (0) 118 340 3400
Fax +44 (0) 118 340 3411

United States

IGEL Technology Inc.
5353 NW 35th Avenue
Fort Lauderdale
FL 33309 · USA
Tel +1 954 739 9990
Fax +1 954 739 9991
Toll Free (US only):
+1 877 GET IGEL

Singapore

IGEL Technology
Care of: C. Melchers GmbH & Co.
Singapore Branch
101 · Thomson Road
24-01/05 United Square
Singapore 307591
Tel (65) 6259 9288
Fax (65) 6259 9111

Hong Kong

IGEL Technology
Care of: Melchers (H.K.) Ltd.
1210 Shun Tak Centre
West Tower
168-200 Connaught Road C.
Hong Kong
Tel +852 25469069
Fax +852 25596552

