



Case Study

Dutch Libraries choose IGEL for savings and ease of management

Business Solutions from
IGEL Technology





“Travel and maintenance costs have been cut by 80% with 95% of problems being solved remotely.”

Leeuwarden is the capital city of the Dutch province of Friesland. With a population of just over 90,000, the city is situated in the north of the country.

The customer

- Leeuwarden local authority
- Providing library services at eight locations across the city
- Outsourced IT through Nordix Consulting en Automatisering

Leeuwarden libraries needed a technology update

When Arden Norder, of outsourcing IT-company Nordix Consulting en Automatisering, won the contract for eight Leeuwarden library locations the first thing he did was carry out an audit of the IT infrastructure. He found the ageing PC system was becoming expensive to run with maintenance costs for the servers and PCs doubling in a year and patch updates becoming increasingly complicated.

“The locations were becoming increasingly difficult and more expensive to cover because of the unreliability of the existing system,” said Arden. “It was clear that a server-based computing solution would be far more effective.”

Attracted by IGEL’s smart card capabilities and remote management software

“After looking at the offerings from Wyse and HP we chose IGEL because no-one else could match the functionality and flexibility. IGEL could offer Linux-based systems with proven smart card functionality and the best management software,” explained Arden.

The libraries use four different IGEL models for their needs. The IGEL Compact LX models are used in the public areas of the libraries for internet access. “These units are smaller and can be placed under the tables; out of sight,” explained Arden. The IGEL devices come with a native web browser, allowing terminals to access any web site or web-based application, removing the need to host the browser centrally on a server. This saves money and removes a typical performance bottleneck in server-based Windows infrastructures.

Each library also has some of the units placed next to a monitor with its USB ports available for use with USB memory sticks, to allow the public to digitally save and take away information. IGEL Linux-based devices also have built in print servers so they can be used to provide inexpensive and manageable remote printing without the expense of buying a network printer.

Staff work with the IGEL Premium LX model for their office systems and java-based applications such as the library catalogue system. The units include an integrated smartcard reader for staff to securely log-on to the system from every location within the cluster. Once logged in, staff can also move quickly from one IGEL universal desktop to another without having to close down and open a new session.

“The Linux model also provides us with an in-built back-up system,” commented Arden. “If we have a major problem with the windows systems we can switch to Linux mode and staff can still use the java application to access the catalogue.” This is possible because the IGEL model comes with a Java Virtual Machine, allowing the terminal to run any Java application locally. This makes the terminal extremely powerful and removes a potential performance bottleneck from the server infrastructure.



The challenge

- More efficient IT systems for the libraries
- Capable of meeting public and staff needs for internet and java application access, smart card security and RFID scanning machines
- Flexible thin clients required for multiple locations and applications

The IGEL thin clients also assisted in meeting the needs of one very specific library location, the local prison. By running RDP over a SSH (secure shell) network, Arden could give library staff at 4 remote locations and the prison access to the central library systems without having to run and manage an expensive Virtual Private Network (VPN).

Because all Leeuwarden library books contain RFID chips to check in and check out books, the more powerful IGEL Premium XP devices were installed to run the RFID scanning machines.

Finally, when the library authorities had to rebuild a state-of-the-art library facility following a fire, they wanted to ensure that night classes could be held in the building. Arden installed the IGEL Elegance LX, a monitor with integrated thin client and wireless capability, which could be installed on small mobile desktops to allow the machines to be grouped and arranged as required without the worry of network cables.

The eight library locations now have a total of 240 IGEL thin clients running from a central server farm with load balancing.

The solution

- 240 IGEL thin client
- IGEL Remote Management Suite for standardised remote administration of all IGEL models
- IGEL Compact LX (IGEL UD 3) for web browsing capabilities
- IGEL Premium LX and XP (IGEL UD 5) for Smartcard, java applications and RFID scanner use
- IGEL Elegance LX for mobility and night school



Arden used the IGEL Remote Management Suite (RMS) to maintain and upgrade the thin clients from a central location. Using RMS, which comes bundled free with every IGEL Universal Desktop, Arden has a simple to use management tool which can have thin clients up and running with just a few simple mouse clicks. Intuitive to use, secure and scalable to up to 100,000 thin clients, the IGEL Remote Management Suite drastically reduces management time for IT administrators.

Travel and maintenance costs cut by 80%

"RMS has been a godsend," commented Arden. "The software is easy to use and intuitive." In fact, there have been a number of benefits from deploying the IGEL thin clients. Travel and maintenance costs have been cut by 80% with 95% of problems being solved remotely. Electricity costs have also been reduced because the IGEL units are managed centrally and can be switched off over night remotely. Under the old system, the PCs were running 24 hours a day because of the difficulties and time involved in turning them off and rebooting them each day.

The future is mobile

Looking forward, the library authorities are looking to install IGEL thin clients in the mobile library bus. Using two-way satellite communications, staff will be able to use the thin clients to access all the same systems as the library buildings.

"Today, the library technology system is unrecognisable from what we had before," concluded Arden. "It is more secure, more efficient and more effective because of the solution we have deployed."



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