



# Case Study

Scania keeps on trucking with IGEL thin clients.

Business Solutions from IGEL Technology





# Good Reasons to Migrate

Scania is one of the world's leading manufacturers of trucks and buses, with 2004 sales totalling around 6 billion and net income of nearly 435 million. Scania employs some 30,000 people world-wide and operates in nearly 100 countries. Its European production and assembly plants in Sweden and the Netherlands make extensive use of IGEL thin clients to ensure that business critical workflow and supply chain applications are available 24x7.

In the road transport industry, the more closely a vehicle is adapted to a specific transport task, the more efficiently a haulier can run his business in the long term. To meet this need, Scania has developed a modular production system that allows it to custom-build vehicles to individual specifications.

## **Stoppages not allowed: technology to the rescue!**

Scania's assembly line in Zwolle, the Netherlands, currently turns out an average of 95 individually customised chassis per day. Assembling this many chassis is a highly complex process, dependent on perfect control of the supply of components from the production plants in Sweden to the assembly line in the Netherlands.

Managing this technical complexity is the responsibility of Scania InfoMate, which provides the software and systems to ensure that the production and assembly facilities can operate at maximum productivity levels – all the time.

In 2000, Scania InfoMate made the decision to phase out emulated applications within its infrastructure, to migrate to Oracle 9i WebForms and to build a standardised set of web-based applications with a common graphical user interface. The team also chose to implement this set of web applications – known internally as MONA – within a Citrix server-based computing environment to simplify management and improve system reliability for production sites.

### **The customer**

- One of the world's leading manufacturers of trucks and buses
- Employs some 30,000 people world-wide and operates in nearly 100 countries

## **Eliminating risk and improving cost-effectiveness**

The InfoMate team then turned its attention to the client devices that displayed the all-important workflow application to workers on the tough production and assembly lines. If any one of these devices failed, it could quickly lead to stoppages spiralling out of control throughout the entire production line – from Sweden all the way to the Netherlands and back again.

It was quickly decided that PCs – with their many moving parts and short lifecycles – would simply not be available or cost efficient enough in the challenging environments of Scania's production and assembly lines. Scania had already implemented a small number of thin clients in one of its facilities in Zwolle, and the team agreed that these highly reliable, low cost devices were the way forward.

Finding the right thin client supplier, however, proved challenging. Scania had set some very specific requirements for its thin client implementation, as Gert Bakker, Oracle DBA and thin client support at Scania InfoMate explains: "In addition to the immediately obvious benefits of thin clients – no moving parts, easily and fast replaceable, low cost – we needed to ensure that our clients could run for at least six years, no matter what changes we made at the back-end. This meant that the clients had to be highly stable, easily flash-upgradeable, and high-powered so we had extra capacity for future applications. We needed them to work seamlessly in Citrix, Microsoft, Oracle, Java, Unix and coming Linux environments, and they had to be easily centrally manageable."

## **Building a future-proof architecture with IGEL**

After evaluating tenders from various suppliers, the InfoMate team chose the Linux-based IGEL-5128 Premium thin client, with a powerful 1GHz processor, 128MB of Flash memory and 256MB of RAM to enable full Java run-time capabilities. Scania has now implemented 300 IGEL Premium clients to help ensure system uptime across its production and assembly plants.

The choice of IGEL Technology as the preferred supplier was influenced by two key factors, as Toni Välikangas, TC- and WTS technician, at Scania InfoMate Sweden explains: "We realised that by using Linux-based clients, we could reduce our licence costs right down to the minimum, whilst maintaining maximum flexibility. Most importantly, however, IGEL showed that it was willing to work in the same way as Scania itself – creating a customised product especially for us that can be implemented straight out of the box. They even gave our clients a special Scania look and feel, with the Scania logo integrated into the boot routine."



### The challenge

- Heavy environment conditions of Scania's production and assembly lines
- 24x7 fail-safe ability of thin clients to ensure that the production and maximum productivity levels – all the time
- thin clients had to work seamlessly in Citrix, Microsoft, Oracle, Java, Unix and coming Linux environments, and they had to be easily centrally manageable

### Remote Management – from anywhere

IGEL's Remote Management Suite has brought significant administrative benefits for the Scania InfoMate team, as Toni Välikangas experienced when he brought the group's Falun facility in Sweden online with the new IGEL clients: "Using the IGEL Remote Management Suite meant that I was able to quarter the time needed to install new clients – it's now just a case of unpack, plug in, and then configure them all centrally. The profiling functionality within the Suite enables me to very rapidly roll out new hardware images and configure application access. I managed to install 30 clients, from scratch in just two hours – something that was unthinkable before."

The Remote Management Suite also fits in extremely well with Scania's "fallback" disaster recovery strategy. Being Java-based, the Suite can run as a Citrix Published Application, via the Web (Mozilla and Internet Explorer), via Java Webstart, via the X protocol, and via local installation on a PC.

"The success of Scania's production environment is proof that our trust in IGEL Technology was well founded. As a result of this implementation, we have achieved effective management of our client devices, high availability and a low Total Cost of Ownership (TCO)," says Gert Bakker, Oracle DBA and thin client Support. For Bakker, the greatest advantage of IGEL's thin clients and the Remote Management Suite is the profile handling.

### Future plans

Plans currently under consideration include the integration of digital photography into the assembly line, to enable better recording of quality control procedures. Implementing this functionality will require USB access to the centralised system on the workshop floor – functionality that is already supported on the IGEL-5128 LX Premium clients. The USB functionality may also come into further usage as Scania introduces PDA synchronisation for a small number of financial staff.

Finally, the team will also be further expanding its "fallback" disaster recovery strategy with a fully redundant browser-based application access solution using the Mozilla browser. In combination with the IGEL thin clients, this solution will act as a back up communications system in case Scania's Citrix infrastructure should fail for any reason.

"In summary," says Markku Hakanen, Product Manager for thin clients at Scania, "the cross-platform IGEL thin clients we have installed throughout its our production and assembly facilities put Scania in good shape to 'keep on trucking', no matter what the future may bring."

### The solution

- Installation of more than 300 Linux based IGEL-5128 Premium thin clients
- IGEL Remote Management Suite enhances administration and profile handling
- Fail-safe ability will be ensured by IGEL thin clients architecture with a fully redundant browser-based application access solution using the Mozilla browser

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