

SOFTWARE TO CREATE NEW PURPOSE

Software, repurposed devices and thin clients are changing the game for responsible businesses

We're experiencing a 'Fourth Industrial Revolution', and universal digitisation is exponentially creating more computer data than ever before.

As an example, Google services in excess of 3.5bn searches per day; in the same 24 hours 2.5 quintillion bytes of data are created as we communicate, create and consume content.

Demand is growing daily as artificial intelligence (AI) and the internet of things (IoT) are introduced to everyday objects and become part of our life. In context, 90% of the world's data were created in the last two years.

KEEPING PACE

To keep pace with intense digital demand, tech companies research and develop faster chipsets, bigger hard drives and dense circuitry to produce increasingly performant personal computers.

This constant evolution is congruent with the observation of Moore's law, which observes that the number of transistors in a dense integrated circuit will double every two years. The founder of Intel was suggesting that processing capabilities of 'computers' will double every 24 months.

This theory has, with minor deviations, proven to be true; following the popularisation of personal

computers in the 1980s, businesses have been fighting to keep pace at the desktop ever since.

THE PERFORMANCE RACE

As a result, investment in business desktop and laptop computers is, in many cases, somewhat short term. The personal computing hardware is usually performant for three years at most; from year four and onwards, as productivity declines, the once bright solution is destined for replacement.

There is a race to stay productive as old computers struggle with new, more powerful applications designed for faster processors.

It has exacerbated the issue of excessive waste electrical and electronic equipment (WEEE). Last year over 54 million tonnes of WEEE were generated globally as old hardware models made way for new.

But what if this cyclical performance race could end? What if, when a personal computer approached the end of its useful lifecycle, it could be repurposed and used for several more years?

REPURPOSING HARDWARE

That idea is already a reality: with IGEL software, moving to a new device is no longer the only option. In fact, more and more organisations have come

to realise that their existing personal computer hardware can be made into 'thin clients'.

By installing purpose-built versions of Linux operating systems on existing Windows PCs and laptops, IGEL can convert legacy personal computers into easy-to-manage 'endpoint devices'. In simple terms, this is just a computer interface.

This means that repurposing old hardware to run Linux edge operating systems from IGEL supports sustainability and at the same time helps to safeguard the planet's resources.

VIRTUALISED DESKTOPS

Igel's innovative approach to lifecycle extension is not only great for the environment, it also suits modern working trends towards digital workspaces.

To explain, businesses and educational establishments typically rely on Microsoft Windows applications. In some cases, hundreds of applications – some of which have been in place for years.

Over the last 20 years, organisations have utilised Virtual Desktop infrastructure (VDI) as a way to deploy corporate or educational applications and data securely and efficiently to employees or students.

These virtualised desktops and applications run in data centres; employees can access them remotely, via internet technologies, while consuming little local processing power and storing no data on the local computing device.

INTRODUCING THIN CLIENTS

In recent years, Desktop as a Service (DaaS) solutions have represented the next step. They use similar technologies but, instead of being hosted in local data centres, the desktops and applications are provided as a service from cloud computing organisations like Citrix, VMware, Amazon and Microsoft.

This year, the need to rapidly deploy desktops and applications in a secure manner to remote workers during the pandemic has seen exponential increases in DaaS adoption, increasing both familiarity and popularity among users.

Access to these virtualised desktops and applications in either the cloud or corporate data centres requires an endpoint. For many organisations, thin clients have been the first choice for such an endpoint.

Often, thin clients are purchased new. Models such as the IGEL UD3 last for many years longer than traditional computing devices because they have fewer components and no moving parts.

REDUCING IMPACTS

If your users already have legacy personal computing devices such as supposedly outdated



PHOTOGRAPHY ISTOCK

'A THIN CLIENT STRATEGY BASED ON REPURPOSED HARDWARE IS A POSITIVE STEP'

laptops, why not convert them to thin clients as you move to DaaS?

By repurposing the hardware, the embodied emissions created during the manufacture and distribution of every device can be spread across many more years, reducing the long-term environmental impact.

Simply put, refreshing your personal computing estate less regularly means that fewer resources will be mined from the Earth.

EXTENDED LIFECYCLES

As an example, repurposing a personal computer with an 80 kgCO₂e embodied value, such as an average laptop, to last a further two years will reduce the annual embodied emissions by 40%.

Scaled across a 1,000-user organisation, this repurposing approach has a considerable environmental impact.

In fact, creating 1,000 IGEL thin clients from

existing laptops that have reached a three-year useful lifecycle will reduce embodied annual emissions from just over 27 tCO₂e each year to 16.3 tCO₂e by adding a further 24 months of useful lifecycle.

The difference is equal to over 38,000 car miles not being driven annually, releasing the sequestering capabilities of over 13 acres of forest.

NEW PURPOSE

The next time your organisation's personal computers reach what you might think is the end of their useful lifecycle, think again.

Think about repurposing existing personal computers to become thin clients to speed secure remote office working or to enable device sharing in education.

And when thinking about this, think about IGEL, and how the intelligent use of software can create new purpose. ■

'THE ANNUAL GLOBAL GHG EMISSIONS CREATED BY PERSONAL DEVICES IS EQUAL TO DRIVING A STANDARD CAR OVER ONE TRILLION MILES. THAT'S 12 ONE-WAY TICKETS TO MARS'

FURTHER INFORMATION

■ Find out more about thin client hardware and software at [igel.com](https://www.igel.com)

'REFRESHING YOUR PERSONAL COMPUTING ESTATE LESS REGULARLY MEANS THAT FEWER RESOURCES WILL BE MINED FROM THE EARTH'

Over its entire lifecycle, a thin client's environmental impact is 63% lower than a PC's

