

# Technology drives smart buildings into green arena

Intelligently designed infrastructure has clear business benefits



GREEN IT

RAJESH SINHA

The ICT marketplace is waking up to being green, not only to the moral and social incentives but also to the financial possibilities. Seemingly vague intangibles have been replaced by clear business benefits.

Now infrastructure designed with intelligence and green IT at its core can be built around a number of key technologies, minimising the long-term costs to business and the planet.

Today intelligent buildings – with a single internet platform that makes it possible to monitor, control and optimise building services such as lighting, heating and ventilation – are a reality.

## Sunny side

By taking advantage of solar power, companies can reduce costs with energy efficiency and reduce or even eliminate reliance on energy suppliers. Lighting and heating can be set to switch-off the moment a room is left empty, then switch back on ahead of later use.

The benefits of smart technology in buildings traditionally focused on cost savings. These are important, but productivity and efficiency are also crucial.

Construction is starting to realise this and has begun to incorporate ICT at the front end of projects. This forward planning is easier and less expensive, and provides an opportunity for both the construction and IT industries to work together on

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**‘Thin client’ machines have longer lifespans – cutting waste – and use less power than traditional PCs**

creating intelligent buildings that put ICT at the core of the project.

Convergence – combining voice, data, audiovisual and other applications on a single network – brings cost and energy savings. Rather than coaxial cable running alongside a telephone network within each building, a single Internet Protocol network is becoming the norm. This enables companies to function with fewer switches, hubs and cabling, also using less power.

Collaboration technologies, including teleconferencing, videoconferencing and remote document sharing ease the challenges and environmental issues associated with a widely dispersed workforce and are key drivers for the adoption of this approach.

Features such as software as a service are helping to move IT hardware from busy, hot, expensive offices to dedicated data centres. ‘Thin-client’ computers – that use a central server for processing – require a fraction of the power of PCs, while the lack of moving parts extends their lifespan to over five years.

Virtualisation technology, which offers users the ability to

pool their hardware resources, is revolutionising the traditional server marketplace.

## Energy saver

The days of a server for a payroll application, another for web services and another for email are disappearing. Virtual servers enable the sharing of hardware with greater resilience, load balancing and flexibility. Fewer power supplies, processors, disks and other hardware mean less copper, aluminium and fossil fuel are used.

Devices that draw energy from their local environment – typically via solar power or vibrations – are becoming increasingly available. These low power ‘scavenger’ units can be used for monitoring systems, wireless light switches and in other applications where low, infrequent power use is the norm.

Applications associated with such devices range from environmental monitoring in data centres to replacing traditional light switches – this type of technology brings cost, flexibility and clear environmental benefits.

Rajesh Sinha is technical director of Bailey Teswaine



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# Cutting out the paper

A little thought can reduce paper use, speed communication and slash waste

By Jennifer Taylor

There is a certain folly in our use of computers and we have failed to complete the circle of what’s possible.

The circle has been interrupted by a paper trail, with people trekking documents between the gap.

Instead, we need to take full advantage of what computers can offer us, and help limit damage to the environment in the process, says Tim Cole, director of eBusiness Solutions at Causeway Technologies.

“It is just making sure that people use technology to provide a complete solution and do not just pick part of it. You have got to look at the business process as well as the technology process,” he adds.

## Print less

“We have become very good at using IT to help create, analyse and produce information,” says Mr Cole. “But we are also good at printing the information out.”

“Computers, in some respects, have made producing paper and consuming trees a much easier process to go through.

“We have got to recognise that if we do not think about the way computers share and exchange information then the technology itself starts to have a much

**“Computers have made producing paper and consuming trees a much easier process to go through”**

TIM COLE

bigger green imprint on the tree line than it really should have.”

Computers have evolved from being a tool for individuals to use for doing accounts, for example, into a business tool.

“We have now got a situation where you have computers with ever growing functionality but we are still overly reliant on paper as a means of communicating from one computer to another,” says Mr Cole.

Two areas that need to be addressed are transactions and content management, both of which, Mr Cole says, “consume vast amounts of paper if they’re not managed effectively”.

Businesses in a construction project will be transacting with each other, whether it is about finance, projects, pre-qualifications or tendering.

Mr Cole argues that these transactions should, wherever possible, be performed without paper because almost inevitably the information is going from one computer to another.

“Avoiding the use of paper as a means of communication would have a big, big impact,” he says.

Content management can be addressed firstly within your own business. Can you put reports on a shared system so everyone does not need their own copy?

Content management within the project and the supply chain is where it gets more difficult because the systems and processes used by each company will be different.

“You have to think long and hard about how you really make that work,” advises Mr Cole.

He adds: “I think people have mistaken using computers for being good technology, as opposed to effectively using computers, which is what I would call good technology.”