

# IT MANAGER

## CLEVER STORAGE

Easy, secure access to the valuable IP held in emails

### COST-EFFECTIVE PRINTING

How using multi-function devices can save you money

### COLLABORATIVE SOFTWARE

Functions and advantages of the SharePoint server

### WIRELESS DEVICES

Safer and faster wireless with the latest broadband technology



## Welcome



The role of email is central to any company. There's a huge wealth of information and intellectual property tied up in email and it can be costly to ignore the benefits of email storage. However, storing email presents many problems. What is essential and what isn't? When do you move email offline and when do you keep it online? Read page 8 to learn more.

Elsewhere, we present the case for investing in a new print system (page 4), show how wireless has become more advanced and showcase the latest green-efficient technology, including a 90 percent recyclable desktop PC.

**David Gould**  
Commercial Director

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Cover photo: Corbis

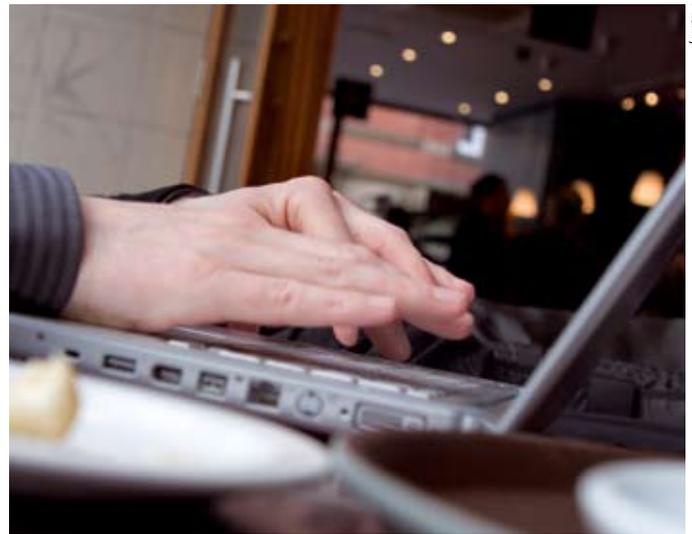
# Mobile workers clueless on security

According to a new report commissioned by Cisco almost three-quarters of mobile users are putting company and personal data at risk by ignoring security threats when working while on the move.

Although many users were 'sometimes' aware of mobile security, 28 percent admitted they 'hardly ever' considered security risks or followed recommended IT procedures. Poor understanding of the dangers and the technology was the primary reason for the lack of adoption of best practices among mobile workers.

One-third of respondents accessed unauthorised wireless networks, while more than half of UK mobile users opened emails and/or attachments from unknown or suspicious sources.

Over three-quarters of respondents also indicated that



Alamy

**Mobile workers must be aware of the security dangers to their IT systems**

it was more difficult to identify suspicious emails and files on PDAs and smartphones than on notebooks because the screens are much smaller.

"More businesses are entrusting employees with

access to corporate information outside the office," said Ben Gibson, Director of Wireless and Mobility at Cisco. "It doesn't need to be a growing concern if the proper security technology is in place."

## Widget security risk

Employees who run widgets and gadgets on their desktop could be compromising their firms' network security, according to a new report from security company Finjan.

According to Finjan, widgets and gadgets on user interfaces are vulnerable to attack code. In its report, Finjan outlined three widget-based attacks targeting Yahoo's Contacts widget (see right), Microsoft's Live website, RSS reader widget and the Vista sidebar contacts widget.

The Finjan report included advice to help firms deal with employees who may be weakening their network security.

It recommended that IT Managers think of widgets as full-blown applications and not allow users to install non-trusted third-party widgets.

Firms should enforce a strict user policy for widgets and widget engines, and also consider blocking widget and gadget file types at the gateway.



## Going green on power

According to a survey by archiving company Plasmon, IT Managers are increasingly being asked to reduce their IT power consumption. The survey found that over 60 percent of IT managers are expected to reduce their power consumption within 12 months, and 34 percent of managers had already made reductions.

Financial service organisations lead the way in cutting power consumption, with 47 percent saying they were already working to reduce IT power.

Protection of the environment was the biggest motive for financial services firms and, as expected in the businesses with tighter margins, cost cutting was the principal driver, with 68 percent of manufacturers highlighting cost reduction as the most significant motive.

## Corporate fraud on the rise

More than three-quarters (77 percent) of IT, media and telecoms firms have suffered corporate fraud in the past three years, according to a survey.

The report from the Economist Intelligence Unit for risk consultants Kroll found that today's complex IT structures have increased exposure to corporate fraud. The survey found that 35 percent of UK businesses have been the target of corporate fraud, with an average loss of £2.42m.

Kroll founder Jules Kroll said that new technologies, new investors and expansion into new overseas markets opened the door to different forms of fraud. "New exposures, such as identity theft, IT crimes and false reporting by asset managers, were rarely seen 25 years ago," he pointed out.

The report found that more than one in five of the businesses questioned felt highly vulnerable to intellectual property and information theft.

## Vista Service Pack 1

The first Service Pack for Microsoft Windows Vista (see below) will be available in early 2008 and Microsoft has already released some details of updates the pack will contain.

The updates in Windows Vista SP1 fall into three categories:

- Quality improvements, including all previously released updates, which address reliability, security and performance issues
- Improvements to the administration experience, including BitLocker Drive Encryption (BDE)
- Support for emerging hardware and standards, such as an Extensible

Firmware Interface (EFI) and an Extended File Allocation Table (exFAT).

Microsoft estimates the update for the standalone x86 version will be somewhere in the region of one gigabyte, with a significant amount of files changing with SP1. Part of the reason for this significant change is Vista shares much of its code with the planned Windows Server 2008. In the past year, the common files in Windows Vista and Windows Server 2008 have been continually improved based on customer beta feedback, customer deployments and Microsoft internal testing.

## The future is 3D

IBM and Second Life creator Linden Lab are joining forces to advance digital 3D worlds and accelerate the development of open standards to promote the creation of a greater number of digital 3D environments.

The project will look at secure

transactions and investigate technologies that will increase the stability and quality of service of 3D platforms.

The companies will also seek to introduce interoperability by creating universal avatars.

3D applications are believed to offer a better user experience than traditional 2D environments.

## NEWS IN BRIEF

- Microsoft has announced it will release its updated Office 2008 software suite for the Apple Mac operating system (OS X) users in the US on 15 January 2008, and plans to roll the new version out to other markets around the world within the same quarter next year.

- A report just published by IT researchers Butler Group said it expected infrastructure virtualisation technology to become the dominant technology in data centres within two to three years. The *Infrastructure Virtualisation* report put this down to the convergence of three significant factors: the need for organisations to reduce energy consumption and carbon output; the importance of responding to market opportunities faster; and the shift towards automation as a means of reducing operational costs.

- Microsoft has made Release Candidate 0 (RC0) of its Windows Server 2008 Longhorn operating system available for download. Microsoft will launch the full version of Windows Server 2008 on 27 February 2008, together with Visual Studio 2008 and SQL Server 2008.

- Intel has joined the USB 3.0 Promoter Group to create a faster version of the Universal Serial Bus connection technology. The new version aims to increase energy-efficiency, while boosting bandwidth by a factor of 10. USB 3.0 will support copper and optical wiring while maintaining backwards compatibility with current USB standards.

## Sixty percent said they had lost important legitimate emails, which had been mistakenly caught in spam filters, at least once a month

percent said they checked it a few times a week.

The survey found that the level of nervousness and time wasted scanning for emails that had been incorrectly trapped was understandable. Sixty percent of those questioned reported that they had lost important legitimate emails, which had been mistakenly caught in spam filters, at least once a month – in some cases this happened every day.



## The battle for lost emails

Britain's IT managers are spending more than five million hours each year searching for lost emails.

An independent survey carried out by e-Media revealed that huge amounts of IT resource is being wasted searching for valid emails caught in spam filters,

costing UK employers more than £140m a year.

The survey also showed an alarming lack of confidence in the ability of spam filters to distinguish between spam and valuable emails: 54 percent of respondents claimed to check email quarantine daily and 22



## YOUR CASE FOR... A NEW PRINT SYSTEM

Ripping out your old printers and starting afresh may make perfect sense: reduced costs, faster printing, fewer bottlenecks and better security. But the board may not understand or be reluctant to throw away 'perfectly good' printers. We offer a few persuasive pointers

The cost of printed documents is running out of control, yet often managers are not aware of the scale of the problem. Research by analysts InfoTrends indicates that general office printing and related activities account for about two percent of revenues, and that total print costs, from desktop to external print, average six percent. If you add the cost of the time spent waiting for printers to print out, and the time and money spent on fixing printers and copiers – often the biggest culprit – then printing takes up a huge part of any business's budget.

The problem is that most of the impact is invisible to the managing director and the rest of the board, and research from 2006 has shown that few companies have a grasp of the volume or cost of office printing.

### Monitoring costs

In a survey of 260 businesses, conducted for printer manufacturer Ricoh, 39 percent of businesses said that expenditure on toner and inkjet cartridges was the hardest cost to measure, followed by 30 percent citing the cost of printer downtime (lost productivity and repair costs, out of paper, out of toner).

Sixteen percent could not calculate how much they had spent on printer hardware, software and services in the past year.

To calculate whether you need to replace your printers, you must carry out a print audit. Print and copying

costs are often underestimated because they are spread over several budgets, including IT, office services and admin. So you need to bring them all back together. You should include the cost of the printers, replacement parts (including the cost of the parts in stock), paper, maintenance and any monthly service contracts.

Finally, because you're going to be suggesting replacing not just the printers but also the copiers, you should add in the cost of copier service contracts. Once you've done your audit, you may be surprised by the level of costs that emerges.

Next you need to produce a plan that looks at all the constituent parts and suggest alternatives and reductions. One of the biggest recurring costs involves printer paper and consumables, such as toner. The

**Get your voice heard: the advantages of a new printing system may seem obvious to you, but you might have to persuade the board**

key to savings is effective management. You should replace inefficient printers and encourage staff to use them responsibly.

One way to cut print costs is by implementing quotas. Setting each user a monthly budget for printing and charging them for each job soon concentrates minds. To avoid squabbles, budgets need to be set at realistic levels. They also need to take account of special requirements, such as emergency printing jobs. In some organisations it is appropriate to implement a 'user pays' printing system. This can involve users paying up-front for their printing, or just being able to top up their quotas when they run out of credit.

### Charging system

High-end, high-volume printers are much cheaper to run than small desktop printers. For this reason you should encourage users to select the right printer. You can do this through a print charging system that assigns the relevant cost to each printer.

Andrew Perry of Equanet says: "When choosing a print solution, total cost of ownership should be one of the major considerations for the purchase. When this analysis is completed it is not always the cheapest hardware that delivers the best results."

Another strategy is to encourage the use of electronic documents such as PDFs. Users like paper because they can make notes on it, but with a PDF you can add notes to documents



**"When choosing a print solution, total cost of ownership should be one of the major considerations for the purchase. When this analysis is completed it is not always the cheapest hardware that delivers the best results."**

Andrew Perry, Equanet

that others can read and they're searchable. In addition, a PDF looks better on screen so users are less likely to print out the document.

By reducing the volume of printing on your network, printers become less overloaded and print queues will be shorter, therefore cutting down on the need for a new printer or upgrade. You may even find that you can reduce the number of printers on your network.

In some environments, quotas may not be appropriate. Monitor printer use by examining printer logs. This will encourage users to be more careful. You can also post print log reports and statistics on the intranet so management can identify:

- Users who have printed the most over a given period of time
- The most expensive print jobs over a given period of time
- Which areas or departments are placing the heaviest demands on the company's printer resources.

**Multi-function devices**

You also need to know what to replace old printers with. High-end, multi-function devices (MFDs) that replace printers, scanners, faxes and copiers with an all-in-one alternative are increasingly popular.

Figures from Hewlett-Packard show that reducing the number of printers on individual desktops and introducing printers shared by up to

How to overcome management objections	
They say...	You say...
Why do we need new printers?	Older printers are slow and it isn't so easy to swap toner and paper between printers.
What about copiers?	Copiers are expensive to buy and run and can be replaced with multi-function devices (MFDs) that incorporate a printer, scanner and copier.
If we replace desktop printers with just a few MFDs won't we spend all our time looking for a printer?	MFDs are faster so jobs take less time, plus they're more reliable. Paper trays are bigger so you spend less time refilling them.
But accounts and the MD need a secure printer.	Accounts and the MD can still have their own printer if it's really necessary. However with modern MFDs you get an extra level of security including the ability to set pin numbers on print jobs, so the pages are only printed when a pin is entered into the printer.
Does this mean we lose the ability to print in colour?	Colour printers are expensive to run; reducing the number of colour printers is a good way to make significant cost reductions. The high-end colour printers we will install will produce better quality prints and will be faster than the current inkjet printers.
How much will we save?	According to Hewlett-Packard, you should realise a 20 percent to 40 percent savings with an MFD when compared to the combined costs of its individual components.

15 people can cut ink and toner costs by 70 percent and paper costs by 67 percent, with overall costs for producing marketing materials down by 30 percent. This is also a greener solution because instead of four devices standing idle and eating up

power, you have one device that is used more of the time and is much more cost-efficient.

The biggest advantage of MFDs is the ability to replace the copier. If printers are expensive, then copiers are doubly so. Not only must you factor in costs for toner, paper and so on, you also need to add rental and maintenance costs. Copiers are usually leased as part of a complex and costly 'one-size-fits-all' contract, with an equally costly service contract. You pay for a monthly page volume, whether you reach it or not. To avoid premiums for going over that amount, many businesses set the monthly volume at peak usage, so often they are paying for pages they never use.

According to Hewlett-Packard's research, only 20 percent of mainstream copier customers use the device's full capabilities. This means that 80 percent of copier users are paying a premium for features and functions that they rarely use. ■

**For more information email [itmanager@equanet.co.uk](mailto:itmanager@equanet.co.uk)**



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- Yellow cartridge - 6000 pages
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Product code: **HPQ7581A, HPQ7582A, HPQ7583A**





# LET'S SHARE

Collaborative software is set to be the future for businesses, enabling data to be shared instantly throughout the company. We look at how it is set to transform internal communications

Web 2.0 is heralded as the next big thing for the internet and business automation, but most IT managers don't realise they've had the ability to do sophisticated collaborative work all along. The basic Microsoft SharePoint product, which is bundled with Microsoft Server software, enables you to collaborate effectively and to build blogs and wikis simply and quickly. SharePoint is comprised of three basic components:

- An online portal and search engine
- A content management system
- A collaboration and business intelligence platform

A key part of any business is the ability to collaborate within the company, and for most companies this is achieved through face-to-face meetings and emails.

However, there are drawbacks. Notes are often not circulated properly and are incomplete, and email isn't suitable for sharing large documents such as video and audio files. It's hard work to keep track of the most up-to-date files and, like

**Knowledge sharing is good for business, and now staff can air ideas or brainstorm using blogs and wikis**

notes, they typically end up not being circulated to all the relevant staff members. Also, as a company grows beyond 10 employees, people lose the day-to-day information flow of a small team and the typical word-of-mouth approach is insufficient.

An intranet portal alerts all employees to events and new products and staff. An internal blog can enable the Managing Director to communicate his or her thinking with the rest of the business, and a wiki allows everyone in the organisation to edit and add to a central information resource.

Office SharePoint Server 2007 is part of the 2007 Microsoft Office system and it enables you to create a series of solutions:

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**As a company grows people lose the day-to-day information flow of a small team and the word-of-mouth approach is insufficient**

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**Share documents, contacts, tasks and calendars** You can synchronise your Office SharePoint Server 2007 calendar with Office Outlook 2007. You can enter all-day events and specify more types of repeating or recurring events. You can track team projects more effectively with day and month views.

**Brainstorm with wiki sites** A wiki enables you to raise ideas, collaborate on a team design, build an encyclopedia of knowledge or just gather routine information in a format that is easy to create and modify. Team members can contribute to wikis from their browsers.

**Share ideas with blogs** It just takes a few clicks to create, post to, subscribe to or customise a blog.

**Update lists and libraries using RSS** Using Really Simple Syndication (RSS) technology, you can enable members of a work group to automatically receive updates when news items appear or when a blog changes.

**Manage projects more effectively** You can create project tasks lists, including Gantt charts. A Gantt chart provides you with a visual overview of projects so you can monitor key dates and progress.

**Mobile access to content** You can view portals, team sites and lists on a mobile device to help stay in touch when you are travelling. For example, lists appear on phones in a simplified text format, with a link to scroll through the content of each page.

**Send email** You can use an email programme to join in discussions and meetings and share documents on an Office SharePoint Server 2007 site. You can also send email messages to a specific list or library.

**Manage documents and some types of lists offline** With Office Outlook 2007, you can work offline on files in a library, calendars, contacts, tasks and discussions. When you connect online, you can update your files on the server. ■

**For more information and advice on SharePoint contact your Account Manager or email [itmanager@equanet.co.uk](mailto:itmanager@equanet.co.uk)**



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# KEEPING EMAILS UNDER CONTROL

Email is a great business communications tool but it can be a nightmare to administer. Find out how to handle and store emails effectively and remain compliant with data protection rules

Email is one of the most powerful and often used communication tools for any business but for an IT manager it can be the source of the most headaches. Firstly, the email system has to be working effectively all the time – if it goes wrong it can bring the entire business to a halt. On top of this, emails can leave the business vulnerable to attacks from viruses and phishing. Also, there's the problem with storing read emails to contend with.

While most IT managers are aware of tools that protect against virus attacks and repair email systems when they're down, the tools and options for email archiving are relatively new.

Unfortunately, the email archiving problem is one that's getting bigger – quite literally. Email file sizes are increasing, they're now all in HTML (adding significantly to file sizes) and the files attached to the emails are also growing in size. Attachments have moved from simple Word and

Excel documents to audio and video files and multimedia PowerPoint presentations.

Email is now becoming more of a collaborative tool, so the same information is being repeatedly stored as emails are passed backwards and forwards between sender and recipient. In the end what you get is an enormous email headache that extends to hundreds of gigabytes every year.

#### **Intellectual property**

To add to the headache you also have the issue of what you should keep and what you should get rid of. Emails are a valuable commodity and there are hundreds of thousands of pounds of valuable intellectual property wrapped up in them. Large companies already recognise that there's gold in their emails and are using sophisticated archives that enable them to look through and index past emails, and they're using it to create a real business advantage.

#### **Emails can contain hundreds of thousands of pounds worth of intellectual property**

Then there's the issue of compliance to consider. There are potential legal issues when it comes to destroying and deleting email. The financial services sector has very strict rules on storing email, but for most other industries and sectors, there are no hard and fast rules. However, the defence of 'we deleted it and can't get it back' is fast turning into an excuse, not a defence. If you have the opportunity to save your emails for an 'acceptable' amount of time and you didn't do it, then you may find yourself getting a heavy fine.

The answer is to set up some clear, practical rules and policies on email storage. The policies will not only help you decide what to save but they may also help as a defence if you're ever unable to produce emails in a court case when asked.

It is practically impossible to decide which emails to save and what to dump, however there are other ways to reduce the number and size of



issues related to keeping email records are particularly complicated is the storage of emails that contain personal information, such as CVs, or any email that could violate codes in the Data Protection Act. To find out more about this it is best to consult the Information Commissioners' Office.

The format you store your data in may not be a worry now, but it could come back as a problem in the future. For example, if you need to keep your emails for a significant length of time, then you will need to store the data in a standard that will last and be readable in the future. Files in pdf, XML and Outlook PST formats are liable to remain readable for some time to come, but with a file from a small CAD or e-commerce package you may not be so lucky.

#### Software solutions

There are packages available that can help you with your email tasks. For example, a NetVault Report Manager for Exchange gives IT managers a single view of storage and exchange administration from one console.

With this package you can analyse email usage and traffic to help reduce the size of Exchange database files and improve efficiency.

Then there are backup packages specifically designed for Exchange Server, such as Symantec Backup Exec 11d for Microsoft Exchange Server, EMC's Insignia Retrospect Exchange Server Agent and BrightStor ARCserve Backup Agent for Microsoft Exchange.

#### Hardware

Lastly, you need somewhere to put your emails and you need to decide if you are going to store them offline, online or a mixture of both.

Offline storage is still mainly done via tape devices. Tape backup is slow to write and retrieving data from tape takes even longer. However, you can keep all your stored data accessible in-house. Using a digital tape library system can offer the benefits of both offline and online solutions, as you don't have to scramble around for the correct tape manually.

emails to a more manageable quantity. The most effective way to reduce the amount of email stored is to store only one copy of anything. So emails that are cc'd to the entire company are stored once, not hundreds of times, and any files that are attached to an email are also only stored once.

Working out how long to keep data is perhaps the next hardest thing to do for businesses that operate outside the financial services sector. However, each industry should have guidelines and you should stick to them where they're available. If not, look to a similar industry that does have guidelines. One area where the

**IT managers are aware of tools that protect against virus attacks and repair email systems, but the tools and options for email archiving are relatively new**

**Equanet**



## Safe keeping for all your data

In recent years, all businesses have seen a massive growth in the volume of emails and other data they have to manage and maintain. The challenge for IT Managers is to implement cost-effective ways of handling and storing this data, ensure that archived files are easy to find and retrieve and keep a rein on spiralling resource demands.

Symantec's Enterprise Vault File System Archiving software enables a business to do all this, cheaply and effectively. With Enterprise Vault, an organisation can build a fully integrated system for archiving file server content to keep costs down and better manage file lifecycles.

Enterprise Vault enables you set rules for what files you wish to store, determine how they are classified and access detailed records of all your archiving activity. Through its unique versioning system, a record of all archive changes are kept, which may be crucial in compliance and discovery investigations. The software also deduplicates and compresses files to reduce storage space.

**For more information contact your Account Manager or email [symantec@equanet.co.uk](mailto:symantec@equanet.co.uk)**

Online storage is disk based, and writing and retrieval of files is quicker, but you will almost certainly have to use a third party archiving system. With the huge price reductions we have seen in the past couple of years and the latest Terabyte NAS devices, the cost of the online and offline options is now comparable: around £2,000 each for a 1.6TB tape system and a 2TB server system.

One solution might be to back up your recent emails to online storage and then to migrate the information to offline, so recent emails can be recalled quickly while the retrieval time for older emails can be longer.

Email archiving is not something you should embark on without guidance, and that will incur costs, as will the hardware and software. However those costs are trifling compared to the intellectual property lost in the emails that you regularly delete, or the cost of the potential fines you may incur for not being able to recover an old email. ■

# TIME FOR WIRELESS

Wireless has had phenomenal growth in the past five years, connecting hundreds of millions of devices, and with the latest 802.11n standard it has finally come of age

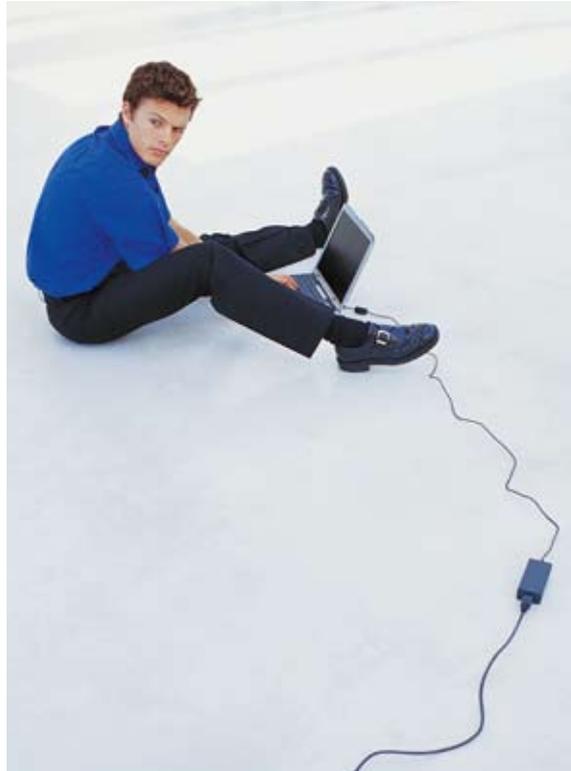
Wireless devices are set to go through another change of standard. We have had 802.11g for some years and while the standard is fast and the range is good, it just isn't good enough. The 802.11n standard will make wireless as fast as ethernet, and its advanced range means you can roam without losing quality and without the need to dot wireless access points every few metres.

In addition, manufacturers have added new security features and many more devices are wireless enabled. Wireless is no longer a niche product and should be on every IT manager's list of must-have items.

The new standard won't be ratified until January 2009, but more than 100 different 802.11n devices are already on the market from companies like Cisco, Buffalo and Netgear. The devices are normally labelled as "Pre-N", which means that they fit the current draft 802.11n standards and potential changes can be covered with a software update.

In theory, 802.11n will allow for speeds of up to 540MB with guaranteed throughput speeds of 100MB, four times faster than 802.11g and as fast as the standard 100Base-T Ethernet connection. While speeds of 540MB per second are some way away, many manufacturers are already quoting maximum speeds of up to 240MB, and should upgrade them to 540MB when the standard is fully ratified.

In terms of range, 802.11n covers a radius of up to 70 metres in a building and 250 metres outdoors. Independent research by analysts OctoScope backs up the speed and



Getty

**The new standard won't be ratified until January 2009, but more than 100 different 802.11n devices are already on the market**

range quotes given by manufacturers. Under testing, a Pre-N device gave throughputs of 140MB at close range and above 30MB per second at 55 metres, through seven walls.

Many products coming on the market incorporate wireless, including printers, projectors and cameras. However, one of the biggest growth areas for wireless is Voice over IP (VoIP). For handsets, the biggest concern is battery life, and as a result, 802.11n has introduced a power-save protocol called PSMP (power save multi-poll) that enables the station to go to sleep when not transmitting or receiving.

While security has been an issue in the past, newer devices are much better at protecting your network. Wireless devices all use Wi-Fi Protected Access (WPA) security and WPA2 uses government strength encryption. Manufacturers have added filters allowing the network manager to connect only known users to the network, or to exclude unknown users. They've also added the function to hide the wireless device by not announcing the device's name, or restrict the transmitter's power so devices can only be used within a building or room.

Such advances are set to ensure that, for businesses, wireless is the preferred choice over ethernet. ■

## Equanet

### Building your wireless network with Equanet

Introducing wireless into your business is not always straightforward. Placing an access point, particularly an 802.11g or earlier, isn't just a matter of finding a spare socket. The signal can be affected by the surroundings and other wireless devices.

Equanet's wireless services offers a complete hardware

and software service. It surveys the site and calculates the most effective places in your workplace to position your access points. It installs the access points, sets up your wireless network and configures the network, so that it works with sensitive and time-critical applications such as VoIP and VPN.

Once the wireless network is in place we can help you with training your staff in how to use the network effectively and securely, and we can offer a full maintenance and support contract for your wireless network to keep it running efficiently.

**For more information email [itmanager@equanet.co.uk](mailto:itmanager@equanet.co.uk)**

# GREEN FUTURE

We take a look at two new cost-saving green technologies: a solar powered desktop PC and the forthcoming Microsoft's Windows Server 2008

## Equanet

### Energy efficient PC

Lenovo's latest desktop PC the ThinkCentre A61e is an ultra small, ultra quiet and ultra energy-efficient solution to your business problems. In fact it's so energy-efficient it can be solar powered. Not only that, it also features 90 percent recyclable material and packaging.

The ThinkCentre A61e is the smallest, most energy-efficient ThinkCentre yet. It is Energy Star 4.0 compliant and is categorised as EPEAT Gold, making it one of the most environmentally-friendly PCs available.

The A61e consumes less than half the electricity of a typical small form factor desktop helping to reduce electric bills and greenhouse gas emissions. The new ultra small form factor (81 x 275 x 242mm) means it can be positioned anywhere: on a

wall (it weighs less than 8lbs), under a desk, or even mounted at the back of a monitor giving a zero-footprint.

However, just because it is small doesn't mean it is not powerful. The A61e features a choice of AMD processors including the AMD Athlon X2 dual-core processors, and to make sure there are no bottlenecks in the system there is a SATA 7200rpm hard drive, a super-fast integrated Gigabit Ethernet network, and room for up to 4Gb of DDR2 memory.

Some new beneficial features include:

- Hard Disk available up to 750GB (7200 rpm and Serial ATA)
- Memory up to 4GB
- DVD-ROM, DVD/CD-RW combo or DVD recordable



**Lenovo ThinkCentre A61e6449 Desktop PC**  
**Price £271.51 (ex VAT)**  
 Monitor sold separately  
 Product Code **A0236819**



### Windows Server 2008

Windows Server 2008 is due to land next February. It offers plenty of new features and others updated to make them simpler to use. If you're looking to reduce your power consumption then virtualisation is a key element and Windows Server 2008 offers built-in virtualisation technologies. These allow you to reduce the number of physical servers on your network.

In addition, the new Terminal Services Gateway and Terminal Services RemoteApp bundled with Server 2008, are designed for easy remote access and application integration with the local desktop, enabling secure and seamless application deployment – without the need for a VPN.

Server 2008 will ship in five versions:

- **Windows Server 2008 Standard Edition.** Provides

key server functionality across most server roles and features.

- **Windows Server 2008 Enterprise Edition.** Builds on Windows Server 2008 Standard Edition to provide greater scalability and availability, and adds enterprise technologies.

- **Windows Server 2008 Datacenter Edition.** Offers the same functionality as Windows Server 2008 Enterprise Edition with support for additional memory and processors, and unlimited virtual image use rights.

- **Windows Web Server 2008.** Designed specifically for use as a web and applications server.

- **Windows Server 2008 for Itanium-based Systems.** Designed for use with Intel Itanium 64-bit processors to provide web and applications server functionality on that platform.

# BETTER COLOUR, BETTER BUSINESS

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**1**



**3**



**2**

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