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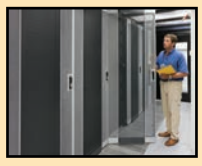

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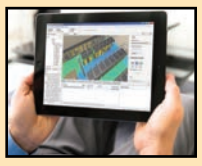

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Cisco and Ericsson partner for the networks of the future

by Rahiel Nasir

Cisco and Ericsson have announced a global business and technology partnership to create what they describe as "the networks of the future".

They say their multi-faceted relationship will offer customers the best of both companies: routing, data centre, networking, cloud, mobility, management and control, as well as global services capabilities.

Under the agreement, they plan to offer service provider customers an end-to-end product and services portfolio along with joint innovation that accelerates new business models.

The firms claim they will create the "mobile enterprise experience of the future" through a highly secure technology architecture for seamless indoor and outdoor networks. They also plan to channel their combined scale and innovation to accelerate the platforms and services needed to digitise countries and create the IoT.

The partnership will be supported by multiple agreements. These include: commitments to network transformation through reference architectures and joint development; systems-based management and control; a broad reseller agreement; and collaboration in key emerging areas.

Teams from both organisations will also begin working on a joint initiative focused on SDN/NFV and network management and control.

In addition, the parties have agreed to discuss fair, reasonable, and non-discriminatory (FRAND) policies and enter a licensing agreement for their respective patent portfolios. They say this will enable "unfettered" joint innovation and provide certainty for their customers. As part of this agreement, Ericsson will receive license fees from Cisco.

Between them, the two networking giants have more than 56,000 patents, investments of $11 billion in research and development, and over 76,000 services professionals across more than 180 countries.

They say their strategic partnership will be a key driver of growth and value for the next decade, with each company benefiting from incremental revenue in 2016 which is expected to rise to $1 billion or more for each by 2018.

Hans Vestberg, president and CEO of Ericsson, says the agreement with Cisco will initially focus on service providers. It will then move onto opportunities for the enterprise segment and accelerate the scale and adoption of IoT services.

(continued on page 2)

Left: Cisco's CEO Chuck Robbins believes the partnership will drive "incredible innovation". Right: Ericsson is aiming to bolster its IP strategy, according to president Hans Vestberg.

Dell-EMC merger creates "largest" private held technology firm

Dell will acquire EMC Corporation in a transaction valued at around $67bn (£44.1bn). VMware, which EMC purchased for $625m in 2003, will remain an independent, publicly-traded company.

A definitive agreement for the deal was signed on 12 October by Michael Dell together with MSD Partners (Dell's capital management company), US private equity firm Silver Lake, and EMC.

Under the terms, EMC shareholders will receive $24.05 (£15.83) per share in cash in addition to tracking stock linked to a portion of EMC's interest in VMware.

EMC chairman and CEO Joe Tucci said: "The waves of change we now see in our industry are unprecedented, and to navigate this change we must create a new company for a new era."

It's claimed the merger will create the world's largest privately-controlled, integrated technology company. Michael Dell believes the combination of the two firms will create a "powerhouse" for innovation in enterprise solutions.

"Our new company will be exceptionally well-positioned for growth in the most strategic areas of next-generation IT including digital transformation, software-defined data centres, converged infrastructure, hybrid cloud, mobile and security," he said.

The transaction is expected to be financed through a combination of new common equity from Michael Dell, MSD Partners, Silver Lake, Singapore-based investment firm Temasek, the issuance of tracking stock, as well as new debt financing and cash on hand.

Michael Dell and related stockholders will own around 70 per cent of the merged company's common equity, excluding the tracking stock, similar to their pre-transaction ownership.

The deal is subject to customary conditions, including receipt of required regulatory and EMC stockholder approvals. It is expected to close around May-October 2016.

Once the merger has been finalised, Michael Dell will lead the combined company as chairman and CEO. Joe Tucci will continue as EMC's chairman and CEO until then. ■

Cisco and Ericsson's networks of the future

(continued from page 1)

Vestberg says: "This partnership also fortifies the IP strategy we have developed over the past several years, and is a key move forward in our own transformation."

Cisco CEO Chuck Robbins believes that given the pace at which the market is moving, the successful companies will be those who build the right strategic partnerships to accelerate innovation, growth, and customer value.

"We have worked with Ericsson during the last year on developing a strategy for future industry leadership, and can start executing together today," he says. "Our partnership will drive growth for both companies, unique value for our customers, and incredible innovation for the industry."

Network operators such as Verizon Communications and AT&T have welcomed news of the agreement, with the latter saying it aligns with its own strategy of seamlessly integrating IP and wireless solutions. Vittorio Colao, Vodafone's group chief executive, adds: "We believe [their partnership] will accelerate the pace of innovation across the communications industry as ultrafast networks, cloud services, and the Internet of Things become increasingly central to our customers' needs." ■

Atos and ICTroom join forces on end-to-end data centre services

Atos and ICTroom will work together to deliver end-to-end data centre services to their clients. As part of a recently signed global alliance agreement, the two firms say they will enable enterprises to create and operate a "future-state technology ecosystem" that will support business growth, agility and sustainability.

Atos says it has carried out more than 1,000 data centre projects over the last 10 years. Its experience is in consolidation, moves, virtualisation, optimisation and transformation projects.

Headquartered in the Netherlands, ICTroom has delivered more than 250 data centres and computer rooms across Europe as well as other parts of the world.

ICTroom MD Frank Brand believes strategic partnerships are no longer just a 'nice to have'.

The initial scope of the agreement covers Benelux, Sweden, Finland, Denmark and Central and Eastern Europe. Other regions and countries will follow at a later stage.

By combining their respective expertises in infrastructure, the two partners claim customers will benefit from an end-to-end service specialised in data centre facilities and technology. They add that the joint approach ensures a "significant" reduction of overall delivery time to achieve a live site that meets the specific needs of an individual client's data centre.

"Strategic partnerships are no longer a 'nice to have'," says Frank Brand, MD at ICTroom. "They are critical in building out competitive advantage in today's more complex IT industry. The partnership of Atos and ICTroom delivers a full end-to-end scope of services in data centre design, construction and commissioning, and allows for a tangible relationship that is greater than the sum of its parts." ■

New services leverage software defined networks

Colt and KEMP Technologies are pushing forward with software defined networking (SDN) with the development of two new and separate services.

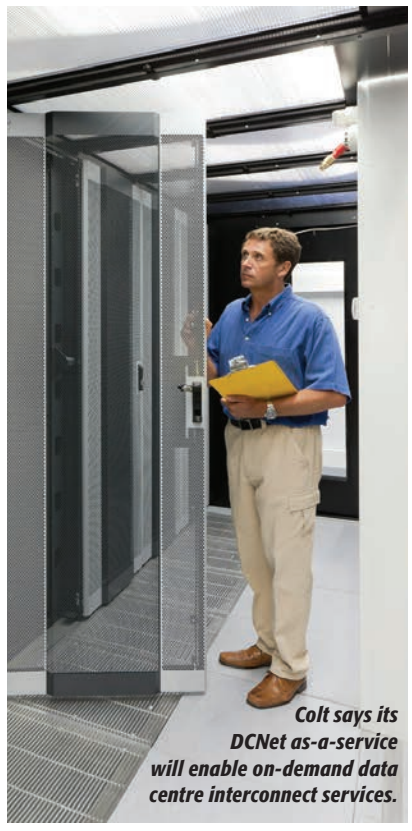
In October, Colt unveiled *DCNet as-a-service*, enabling on-demand data centre interconnect services across Europe. The company claims it will transform the user experience by improving self-service capabilities for real-time ordering, provisioning and service flexing.

Colt adds that its elastic, on-demand and programmable network improves integration with cloud services, reduces lead times, and builds on flexible commercial models while delivering a new set of improved SLAs.

The launch of *DCNet as-a-service* is the first step in the company's rollout of an SDN-based network. The next stage will see the extension of these capabilities into Asia in early 2016. Colt says it will then leverage these capabilities to enable elastic connections between data centres, customer sites and cloud service providers. This will include APIs to provision services across third-party networks.

DCNet builds on Colt's SDN-enabled modular Carrier Ethernet platform. It is initially available for data centre interconnect services in 57 third-party data centres in London, Paris and Frankfurt. This capability will be extended to over 150 data centres across Europe as well as Asia Pacific in 2016.

In a separate development, KEMP has unveiled its 'Load Balancing-as-a-Service' (LBaaS) plugin for its *LoadMaster* appliance. It says this will enable customers to manage and orchestrate advanced application delivery services in their private cloud environments. The plugin makes elements that secure and accelerate application services available across the Neutron SDN within OpenStack. ■



Colt says its DCNet as-a-service will enable on-demand data centre interconnect services.

Scottish Wide Area Network now has more than 50 members

The Scottish Wide Area Network (SWAN) has had a busy few weeks with three new public sector organisations joining it.

The SWAN is Scotland's single public services network and is being delivered through a framework contract that was signed with Capita IT Enterprise Services in February 2014.

Since then, Capita says more than 3,200 sites and 3,500 circuits have been connected, and a dedicated network and operations centre has been constructed. The team has also received PSN accreditation and has achieved ISO27001, recognising international information security best practice.

More than 50 public sector organisations are now benefiting from the infrastructure and service sharing facilitated by the SWAN. Capita says it is lowering costs and improving connectivity across Scotland's entire public sector.

The latest organisations to join the network include Inverclyde Council, Scottish Natural Heritage, and the University of the Highlands and Islands (UHI).

The UHI comprises 13 independent colleges. It serves more than 40,000 students from over 70 separate learning centres around the region, including Moray and Perthshire.

UHI COO Fiona Larg said: "The university is a unique higher and further education establishment which operates from a huge number of locations across Scotland, so the strength, resilience and cost-effectiveness of our network is vital.

"Joining SWAN will mean that our network is faster and more reliable – and will mean that we can benefit from SWAN's significant economies of scale." ■

JMC will provide a fully-outsourced IT platform that will cover 10 farms spanning more than 50,000 acres.

JMC harvests Farmcare managed services deal

Following its separation from the Co-operative Group last year, Farmcare Trading has chosen Manchester-based JMC IT to fulfil a major IT contract for managed services.

Farmcare is said to be the UK's leading rural and agricultural business. With assets that include nearly 16,000 hectares of land managed by highly qualified farming specialists, the company grows quality arable crops and fruit for the food service, retail and trade sectors.

Under a three-year contract, JMC will provide a completely new, fully-outsourced IT platform, telephony and support solution for Farmcare's 260 current employees. It will cover 10 farms spanning more than 50,000 acres, two packhouses, and a head office in Manchester.

Farmcare selected JMC after the Greater Manchester Chamber of Commerce suggested that it invite the firm to tender for the project. Amie Harris, Farmcare's head of business change, says: "JMC assured us at an early stage that complete, live connectivity and integration for our business was possible, regardless of location or the number of fragmented or rural operations we have."

To overcome the challenges of delivering a network across a fragmented and rural business structure, JMC plans to provide an access strategy via Citrix and a unified communications platform supported by *Microsoft Skype for Business*. It says this will enable complete remote user access and live video conferencing through Dell PCs, hybrid laptops and tablets.

It will also deliver a core IT platform located in a Manchester data centre, a WAN facilitated by JMC's partner Metronet UK, and private 3G access for roaming users.

"Fully outsourcing our IT system, support and all user requirements means that we do not require an internal IT team at all, which means we can focus on the core operation of the business," says Harris. ■

THE WORLD ACCORDING TO…

Ashwin Kotian, VP, product management, RF Code

Don't let an errant asset raise your data centre TCO

Data centre operators are under mounting pressure to accurately evaluate the efficiency, accountability and total cost of ownership (TCO) of their facilities. These calculations extend far beyond the initial capital outlay for physical infrastructure and assets.

Senior management now expects extensive reporting on current and projected opex. Data centres must deliver long-term business value that improves the strategic competitiveness of the entire organisation, not just the agility of the IT department. This is why operators are focusing less on arbitrary cost-cutting and more on resource optimisation.

In recent years, methodologies have centred around improving energy efficiency, but the emergence of precise data collection and analysis tools have enabled data centre managers to become more strategic in their management.

However, there is one aspect of data centre TCO that remains overlooked: what happens if an asset is misplaced? This can result in massive financial penalties, instantly erasing any existing cost efficiencies. In the UK, fines can reach hundreds of thousands of pounds, while for operators managing globally distributed data centre estates, it can stretch into the tens of millions, particularly if class-action lawsuits are brought to court.

Without a comprehensive management system built on real-time data, the chances of assets going missing increases significantly. The frequency of HIPAA (Health Insurance Portability and Accountability Act) fines, the regulations that safeguard hardware and portable devices used for the storage of personal health-related information, are evidence of this. A similar trend applies to PCI governance and the ICO.

While some detractors may argue that real-time asset visibility cannot prevent an asset from going missing, it does however immediately notify managers of its removal from monitored locations. Any tampering to tracking instrumentation instantly sends an alert to those in control positions.

Actionable information is critical to ensuring the data centre can be managed effectively from an operational perspective – but even more critically, to ensure existing investments are being protected.

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www.networkingplus.co.uk

Annual subscription: £80 (UK); £95 (Europe), £100 (USA and the RoW) airmail. Cost per single copy is £8.25.

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ABC audited circulation: **19,679** 1 Jul 2011 – 30 Jun 2012

Fully optical DCs needed for 5G

Interoute has presented the results of LIGHTNESS, the EU research project it has been coordinating since 2012 which aims to develop solutions for data centre infrastructures in anticipation of the rise of 5G technologies.

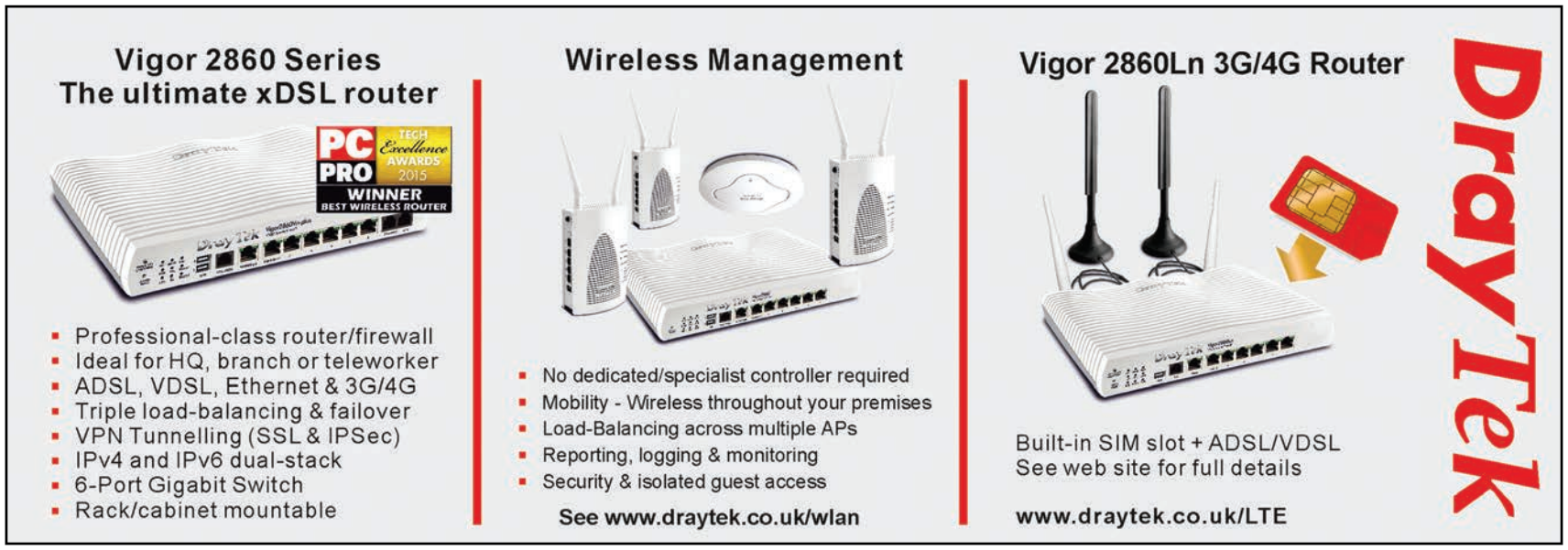
The project results demonstrate a new fully optical software defined data centre. Here, optical packet switching (OPS) and optical circuit switching (OCS) technologies are integrated with an SDN controller, which is based on an extended version of OpenDaylight, for scalable and programmable architecture.

The integration of OCS and OPS is said to act as a mechanism to match different traffic patterns. It's claimed these new traffic control techniques could allow operators to manage all data centre resources in a more dynamic way, leading to reduced costs and end-to-end service improvements.

Interoute's Italian subsidiary revealed the project results at the annual European Conference on Optical Communications held in Valencia last month. The first tests of the prototype presented at the event demonstrated data transmission rates from 40Gbps to 100Gbps. This was carried out over a chain comprising a programmable hybrid (OCS/OPS) network interface card, an OPS switch, an 'Architecture on Demand' OCS switch, a hybrid ToR switch, and a fully optical ToR switch.

"LIGHTNESS prototypes for both hardware and software are ready to be implemented," said Matteo Biancani, LIGHTNESS project coordinator and sales director at Interoute Italy. "What we are presenting is a project that is not only innovative and concrete, but also immediately relevant to address the evolving telecoms market and to better manage the advent of the 5G standard."

Interoute says data centres will be heavily impacted by new traffic patterns created as a result of increasing mobile use and the IoT, and says they will need to advance accordingly towards 5G. ■



BlueCoat and IBM acquisitions

Blue Coat Systems will acquire Elastica for $280m (£185m). By combining Elastica's *Cloud Access Security* and *Analytics* with its own cloud data protection system, BlueCoat claims it can uniquely offer a global security platform that provides visibility, control and data-level security across cloud, on premise and hybrid environments. In a separate announcement, IBM has completed its acquisition of Cleversafe, a developer and manufacturer of object-based storage software and appliances. IBM says the acquisition will strengthen its positions in storage and hybrid cloud, and support its customers' drive to next-generation mobile, social and analytics applications. Financial terms were not disclosed. ■

Volta becomes vPOP for LINX

Volta Data Centres has become the fourth UK data centre to become a virtual point-of-presence (vPoP) for the London Internet Exchange. Volta says it will enable LINX's more than 650 members to connect directly to a core LINX POP at the lowest cost and with the minimum of fuss. The company will work with Ai Networks to provide the connectivity. Ai Networks operates a low-latency London dark fibre ring, and is also a *LINX ConneXions* partner. LINX is said to be one of the world's largest network peering exchanges. It handles more than 3Tbps of traffic daily across its public exchange alone, while traffic over its private interconnect facilities is more than double that figure. ■

Capita on TfL framework

Capita IT Enterprise Services has been appointed to Transport for London's (TfL) new IT solutions framework. This will be in place for the next two years, with an option to extend through to 2019. It will be used to procure ICT project delivery services, including consultancy, advice, business transformation, design, development, implementation, training, amongst others. Capita is one of 12 companies that have been awarded a place on the framework. The firm says it has a long-standing relationship with TfL, and is currently working with the organisation on a project for a new congestion charging system. ■

IPT helps boost customer service for Spelthorne Borough Council

As part of an ongoing programme to enhance service to its 90,000 citizens, Surrey-based Spelthorne Borough Council identified its telephone contact centre as an area for improvement.

The centre was struggling with more than 200,000 calls a year, a low 70 per cent resolution rate, and a higher than desired abandonment rate of 14 per cent.

The council has also merged its revenue collection and customer service departments, and this offered an opportunity to deliver an integrated service along with new telephony technology to improve public accessibility.

During the first phase, it worked with Liquid Voice to help deliver an IP-based call recording and automatic call distribution system to replace the legacy platform. This enabled new features such as call shadowing along with more visibility on call duration, completion, and other trends to help with staff allocation and training.

For the next phase, Liquid says it delivered a "seamless" integration with Spelthorne's *Civica* CRM system along with enhanced CTI to help automatically route calls based on the callers' preference while giving contact centre staff faster access to relevant information.

During the third phase, the company delivered a set of features to meet the council's new disaster recovery and business continuity guidelines. This allows remote activation of call handling, messaging and redirection in the event of an incident.

Linda Norman, Spelthorne's head of customer services, says the new system has reduced call volumes by 30 per cent, cut the abandonment rate to less than seven per cent, and boosted the resolution rate to over 95 per cent. She adds that 80 per cent of calls are now answered within five rings.

"The improvements in the systems means we no longer have to use third party 'out of hours' and 'queue buster' services, or replace staff lost through retirement. [When] combined, [this] equates to savings of over £30,000 each year," says Norman. ■

'Data centre in a box' gains top marks at college

St Richard's Catholic College in East Sussex has ditched its EMC legacy data centre environment in favour of a hyper-converged solution from Scale Computing.

The college's legacy environment lacked reliability, was complex to configure, and very costly to support. It also suffered from slow log-on times for St Richard's 200 staff and 1,000 students.

The IT team evaluated SAN solutions from HP and Dell, along with hyper-converged platforms from Nutanix and Scale Computing. Systems manager Mark Lane says the cost saving with Scale's *HC3* virtualisation platform was 40 per cent lower than renewing EMC's contract.

HC3 is described as a "data centre in a box" with server, storage and virtualisation integrated into a single appliance. Lane says system installation – including unpacking, attaching rack rails and adding power – took just one hour. "In the next hour, we had the system clustered and connected to our fibre network. The entire setup of user permissions, access control, security, and virtualising the storage environment was complete in three days."

He adds that while log-on times for the college's Microsoft CIFS system previously took two minutes with EMC, *HC3* has enabled sub 25 second log-on times.

Scale's system has also enabled the college to virtualise, which was not possible with the legacy storage system. "St Richard's tried to implement 200 Citrix thin clients, but could not get it to work," says Lane. "Now everything is virtualised, which not only enables us to optimise our client/server resources, but the lower administrative support to manage our entire data centre complex is saving us precious time and increasing productivity."

The college is now implementing an additional *HC3* system at a second site for disaster recovery and greater protection of its information assets. ■

Scale Computing's HC3 system integrates virtualisation, server and storage into a single appliance.

UK showing higher than average IT budget growth

The UK is the number one country in the world for IT budget growth, according to a new study by Axios Systems.

In a survey that interviewed IT service management (ITSM) professionals in large enterprises across the US, UK, Germany, Austria, Switzerland and Benelux countries, researchers found that IT budgets are expected to increase for nearly 40 per cent of UK organisations.

The findings are part of an industry-wide research paper on global service management trends which highlights regional comparisons on IT budgets and ITSM maturity levels. Service management provider Axios Systems produced the paper in partnership with a leading European business school.

The study also reveals that 30 per cent of UK organisations expect their IT budgets to decrease, compared to nearly 50 per cent in the US and 31 per cent globally.

In addition, it found that nearly 80 per cent of UK organisations have an ITSM maturity level of three or higher. This compares to just 66 per cent of organisations worldwide having achieved similar ITSM sophistication.

Axios says the research aims to stimulate a "blue-sky" discussion within organisations about developing better service management, based on observations focused on industry, region and organisational size. It believes that when IT departments are recognised as positive contributors of business efficiencies, they're more likely to get support and resources to drive business innovation further.

"The end goal is to provide C-level executives with exclusive, evidence-based resources that support a competitive service management strategy for their enterprise," says Axios' CEO Tasos Symeonides. ■

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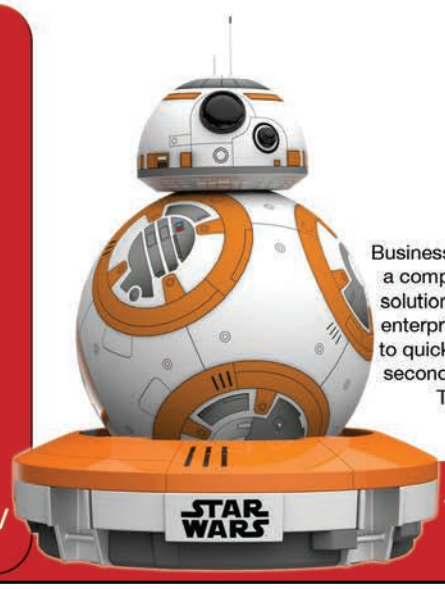

Zerto

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Public sector does not 'fully understand' the benefits of cloud

Despite the Government's 'Cloud First' strategy, only two per cent of public sector IT managers see their sector as highly pro-cloud, according to research by Redcentric.

Earlier this year, the managed IT services provider interviewed 200 IT decision makers from the public and private sector. All respondents had either adopted a cloud strategy or were planning to do so in the near future.

The study revealed that three quarters of public sector IT managers are only taking their first tentative steps on their cloud journey, suggesting that they need to become more confident about their cloud approach. Redcentric says this could be due to the public sector not fully understanding the benefits cloud can deliver.

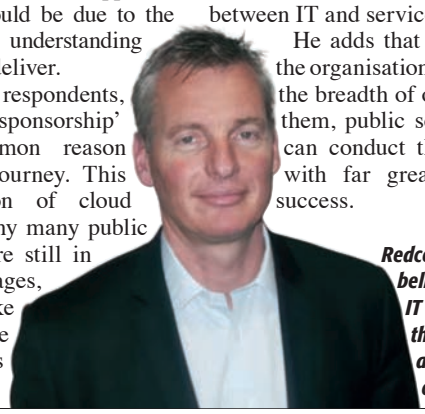
For 40 per cent of respondents, 'gaining internal sponsorship' was the most common reason for a delayed cloud journey. This "uncertain" perception of cloud could be the reason why many public sector organisations are still in their early adoption stages, despite initiatives like G-Cloud being in place for three years, says Redcentric.

Nine out of ten IT managers said their biggest concern is integrating cloud services, showing this to be another major reason why the sector may hesitate in implementing the cloud.

Data sovereignty was another top cloud concern, with 54 per cent saying that the most important service-related factor when moving to the cloud is knowing where their data is held.

Andy Mills, Redcentric's group sales director, says: "It is vital that IT departments engage the wider organisation at the start of their cloud journey to reduce the disconnect that we've observed between IT and service owners."

He adds that by working across the organisation and understanding the breadth of options available to them, public sector organisations can conduct their cloud journey with far greater confidence of success. ■



Redcentric's Andy Mills believes it is vital that IT departments engage the wider organisation at the start of their cloud journey.

VIEW FROM THE TOP

Mateo Meier, CEO, Artmotion

Data protection post-Snowden: who you gonna trust?

In the aftermath of the NSA and GCHQ scandals, concerns around government snooping still remain high. Businesses and consumers are losing faith in the ability of providers to protect their data. A recent study conducted by Artmotion found that 56 per cent of UK and 52 per cent of US citizens believe that their government is spying on them. These results highlights how trust in governments has reached an all-time low when it comes to data protection.

As commercial data storage and transfer companies continue to grow, businesses and individuals are becoming increasingly unaware of where their data is being physically stored. According to research published by the Ponemon Institute, 83 per cent of businesses do not know where their sensitive data is being stored, with many not even knowing which continent their private information is currently hosted in. In order to protect against this, organisations must be extremely careful when selecting a data hosting provider, ensuring that they fully understand where their data is going to be located.

However, on the flip side, as data hosting has become less dependent on physical locations, organisations can take back control of their data. Instead of relying on local governments and privacy laws, they can now host their data wherever they choose, and in countries where individual privacy is taken more seriously.

For example, more European firms are taking their data to independent countries such as Switzerland, which falls outside of EU and US jurisdiction. Moreover, for those that wish to enhance their data protection, many global data centres provide additional security features such as dedicated servers and encrypted server disks.

With governments unable to guarantee data security, it is extremely important for companies and consumers to take the necessary precautions to ensure they are in a position to protect themselves against prying government eyes.

College hangs up on traditional telephony for IP-based system

Redbridge College has replaced its outdated traditional phone systems from Avaya and Alcatel with VIA's cloud-based platform.

The college has more than 300 staff across campuses in Chadwell Heath and Ilford, as well as at offices in Kent and Hertfordshire. Its previous phone systems had reached capacity and were lacking in support, but upgrading to a new ISDN solution would have proved too costly for Redbridge.

VIA Voice operates over the internet and replaces the need to have a traditional phone network. It allows employees to talk, instant message, email, video chat or take part in conferences across a variety of devices. It also enables staff to hold online sessions with students using a web client.

VIA says the college's various support teams can now streamline their operations and provide immediate assistance regardless of location. It says this has led to a reduction in response times across the organisation, as well as substantial cost savings.

The system also includes additional bespoke functionality, such as VIA's call routing solution which effectively directs incoming phone calls to the correct departments. In addition, Redbridge is using the company's real-time management portal to observe trends, evaluate the usage and productivity of employees, monitor costs, and add new users.

The switchover was handled by VIA's in-house experts using *VIA Sync* which allows existing staff to be automatically uploaded onto the new platform. The college was also provided with up-to-date telephony equipment on a lease basis to ensure overheads were kept to a minimum. ■

Council reduces cost with fully managed cloud printing service

Aylesbury Vale District Council (AVDC) has reduced its annual print management costs by £50,000 following the appointment of Annodata to provide a cloud-based managed print service.

The cloud-based print solution was created to reduce the number of devices in the council's print estate, improve security, and drive down its carbon footprint. A mobile printing facility was also deployed to allow staff and visitors to send their work to print from any device, in any part of the building.

All of the print servers are stored off-site in KDDI's secure data centre and are managed remotely by Annodata, relieving the burden of management for AVDC's in-house team.

Like all councils, Buckinghamshire-based AVDC has had to deal with significant funding cuts from central government, having seen its grant decrease by 47 per cent since 2010. To counter these budgetary restrictions, and to prevent negatively impacting the services it provides, the council has adopted a cloud-first approach to its IT, migrating functions and applications wherever possible.

"Cloud is a major part of our IT strategy and has a great deal to offer increasingly squeezed public bodies like us," says Karen Russell-Surtees, AVDC's IT project leader. "The potential for cost savings is a key driver, but just as important are the flexibility and agility that the delivery model offers.

She adds that having a third party manage IT and infrastructure means that internal IT staff can focus their efforts on the council's core business. ■

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The key to all good networks

With data centres now at the heart of IT operations for many organisations, getting their infrastructure right from the outset is crucial.

Cooling at Portsmouth

Following a requirement for a high-density, energy-efficient cooling facility for its new £2.25m data centre, the University of Portsmouth turned to British specialist Airedale. Its solution provides indirect free cooling to the data centre, with direct fresh air free cooling the UPS room.

The system is optimised via a dynamic chilled water temperature set point adjustment feature to deliver free cooling up to 95 per cent of the year, depending on ambient temperature.

When free cooling is available, chilled water set points are maximised up to 20°C to prolong the cooling.

A global set point adjustment on *ACIS*, Airedale's web-based control interface, simplifies management of the university's precision air conditioning (PAC) and

OnRak IT cooling units by allowing the user to adjust them in one place. When the data centre is unoccupied, the temperature is set to 27°C. A bespoke feature of the system allows the set point to be overridden by a key switch to lower the temperature to a comfortable working environment of 24°C when needed.

ACIS sequences the two chillers in run standby operation, with the standby chiller assisting in free cooling mode, and also adjusts the supply water temperature to ensure it is above the dew point of the data centre and so prevent condensation. The secondary pumps are modulated to provide the correct amount of flow dependent on the load and to maintain air temperature in the data centre.

According to Airedale, *ACIS* delivers intelligent, graphical remote management of the data centre, in addition to useful tools such as heat maps and reporting. It interfaces with multiple protocols to monitor all elements of the site, and also integrates with the legacy building management system (BMS) allowing visibility of data centre alarms from the main site.

Airedale's single solution has given the university total control of the entire data centre cooling plant, bringing significant energy savings and a projected PUE level of 1.14 (load dependent).

Sky goes beyond the limit with DCIM

Sky's IT estate includes more than 1,000 server racks located in a combination of its own data centres throughout the UK along with some co-located facilities. With the company's existing asset management solution approaching end of life, its operations team sought a new solution that would help it better understand how its infrastructure could be better utilised.

Riccardo Degli Effetti, Sky's head of data centre operations, says: "We want to be able to measure what capacity we have as a resource, and understand how long it will be before we need additional infrastructure. We want to know which of our servers are working efficiently and which ones are not and therefore are candidates for decommissioning or further virtualisation. In a sense, PUE is not that useful to us – our key metrics are CPU utilisation and power consumption."

Effetti and his team convinced management to invest in a DCIM system to raise awareness of IT usage across the whole of Sky's business. Following a competitive tender, Keysource was appointed and chose to deploy Schneider Electric's *StruxureWare for Data Centers* suite.

Keysource first identified the key stakeholders across all Sky businesses and established the respective roles. It organised a number of workshops where the proposed approach to the project was modelled, the core functionality of the toolset was explained, and demonstrations of its impact on current systems and ways of working could be discussed.

The next step was to ensure the relevant technical, security, network and operational resources were available from all sides to plan the implementation and scope of integration.

Phase 1 commenced in June 2014 and was delivered in early October 2014 for a pilot facility. The second phase, currently being implemented, involves integrating the DCIM solution with the BMS across all sites. This will unlock further benefits and functionality, and will require further collaboration and interfacing with a range of service and solution providers.

Sky had previously been using a number of different tools which were not integrated and meant that the capacity and performance management of the data centre estate was very time consuming. Furthermore, the incumbent asset management tool did not have some of the required functionalities. *StruxureWare* is said to feature all key components of a "truly comprehensive" DCIM toolset, including: asset management; change management; capacity planning; IT optimisation; and BMS integration.

Keysource was able to ensure *StruxureWare* was populated from existing data and interfaced with other business tools for service delivery and ticketing. The aim was not to alter the way Sky ran its operations to fit in with the new tool, but rather to develop an approach which optimised and streamlined the whole process. This resulted in a single dashboard in which assets, racks and BMS data can be viewed through a single screen.

Paragon seizes power

Formed in 2011, Paragon Internet Group is the parent company of UK hosting brands TSOhost, Vidahost and HostRoute. The firm now supports more than 230,000 websites for over 70,000 private and enterprise users.

The company says its cloud hosting business rose by 277 per cent during a period of significant growth between 2012 and 2013. It had outgrown its co-location facility and therefore needed to revisit its data centre strategy.

As a result, Paragon opted to build what's described as a "state-of-the-art", multi-million pound Tier 3-plus 2N data centre in Slough. In order to guarantee the highest level of resilience, the group chose best-of-breed technology partners for each aspect of the infrastructure.

Paragon director Adam Smith says: "In order for us to realise the full benefits of having our primary data centre in our HQ, the project required a vast array of expert knowledge, which is where the individual contractors added real value."

Emerson Network Power (ENP) was selected not only to deliver thermal management and UPS solutions, but also for its industry knowledge and expertise.

Construction of the new data centre was completed in November 2013. The 20,000 square foot facility has the capacity for 120 high-density racks, which significantly expands Paragon's previous network and will help facilitate its rapid growth.

ENP's *Liebert* PDX data centre cooling units and *Trinergy* UPS systems have been installed. It's claimed these not only maximise energy efficiency, but also guarantee enterprise-standard reliability and flexibility, backed up by direct expansion cooling technologies. ENP says its PDX solutions have also improved the facility's PUE to 1.3.

Moreover, *Trinergy* provides Paragon with real-time insights into power supply and load conditions. By automatically selecting the most efficient operating mode, the UPS system will ensure that Paragon sees lower energy consumption as well as a reduction in CO2 emissions.

Because of its close relationship with Emerson's team, Paragon's new data centre is built to scale to 100 per cent load with no disruption to service and zero risk. It is currently running at around 20 per cent of initial cooling capacity.

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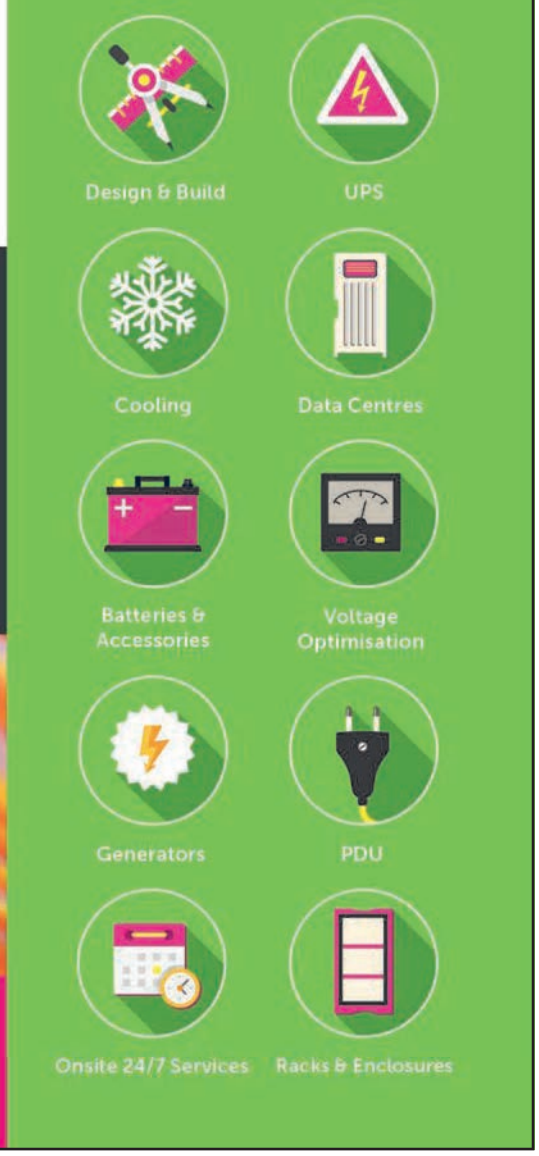


A finger on the pulse

According to Polycom, "healthcare runs on content". The telepresence specialist says there's now a lot more collaboration between medical practitioners, and increasingly via video.

With the proliferation of 'bring your own device' and growing Wi-Fi demand in hospitals, JAMES HAYES looks at the prognosis for NHS network managers.

For years, networked IT systems in the NHS have had to deal with a range of contending technological compulsions and political pressures.

At the strategy level, there's the obligation to engage with top-down prestige projects which can prove a source of all-round reputational damage when they go awry. These projects proceed on the centralised, directorial belief that a mega-organisation of the NHS' size requires big (again centralised) IT. That's despite the fact that smaller-scale initiatives founded on progressive principles of localised requirements, funding and accountability, still win through.

Meanwhile, at a grassroots tactical level, there's the need to manage emerging technology usage trends over which frontline techies have limited command. The NHS' ground-level resources have traditionally been geared toward operational medical applications and services, running alongside administrative and other key support applications. Some industry insiders say this model is being radically remade due to the infiltration of personalised mobile technologies.

While the NHS' travails with big IT programmes have been much reported, those regional ICT implementations that meet a range of requirements from critical medical applications to vital administrative support functions do not otherwise get the wider recognition they deserve. And the contribution of other branches of wide-scale IT infrastructure – such as the N3 national broadband IP network that securely connects 1.3 million of the service's employees in England – should not be overlooked.

"Network downtime for a corporation might result in lost revenue, but in hospitals it can be the difference between life and death," says Andrew Graley, Polycom's director of healthcare, government and education. "The urgency of communications means that network resilience needs to be better than it is in the private [business] sector."

Extraordinary IT environment

The heightened demands placed on ICT in the NHS are bound to carry across onto the networked IT teams tasked with both maintaining business-as-usual and optimising the IT estate, while also extending its reach.

Innopsis is a not-for-profit trade association representing firms providing communication, network or application products and services to the public sector. According to its information governance director, Des Ward, the NHS' extraordinary working environment calls for an exceptional range of technological competences and interpersonal skills.

"It is hard to think of another organisation that [is under] the obligation to work with so many other departments, and that has the same level of multi-touch that is standard within healthcare. Similarly, [it's hard to think of] one that has to face the consequences of not getting it right – which, at worst, equates to harm to patients."

Ward adds that the dilemma for healthcare providers is that by their very nature they have to be both risk averse and innovative in their use of new technologies to improve patient care.

Matt Lovell, CTO at Pulsant, agrees: "Just consider the huge number of integrated and disparate systems across different interfaces and regions that's involved in delivering a consistent healthcare experience. This complexity introduces further demands that other vertical sectors don't have to worry about. Nor do they have to negotiate through the differences in financial budgets and pressures that individual units inside the NHS have to prioritise."

Compared to sectors like banking, manufacturing, or retail, the other main difference in the NHS is the different speed of change. Healthcare is experiencing – and driving – more rapid change than ever before, notes Graley. But he points out that implementation tends to be "hindered" by the sheer scale of the organisation: "The NHS is the UK's single biggest employer and it takes a while for a ship that large to change course."

These constraints are key to understanding why technological redevelopment seems to play-out at a different pace in the NHS. Private sector organisations can recognise a business benefit of a technology, implement it at a faster rate, then pay for it at a slower rate, according to Graley.

"Commercial verticals are willing to use different kinds of finance options than the public healthcare sector which makes it easier to get network project budgets signed-off. The private sector is more likely to opt for subscription- or leasing-based ownership models, compared with the [upfront] capital expenditure model that a lot of healthcare organisations still use."

"Hospitals now want clinical access to systems at the bedside, or 'point of care'. This means that network provisioning is having to move from fixed- to mobile access via Wi-Fi."

Rob Orford, Director of healthcare, Azzurri Communications

A proliferation of connecting mobile devices prompted the NHS South East Commissioning Support Unit to replace a legacy intrusion prevention system with ForeScout's CounterACT NAC platform.

Even if the NHS' ability to both buy-in and buy-into IT change might proceed at a more moderate rate compared to other verticals, at the same time, the day-to-day mission-critical issues it has to deal with are ones that most other sectors would be hard-pressed to maintain control of.

Lovell reckons there are two principal issues here. "First, healthcare workflows and priorities can change significantly and rapidly, added to which network managers in this sector may not have as much visibility or notification of these changes as [their counterparts in] other vertical sectors receive.

"The other challenge is increased use of third-party health and well-being technologies, such as wearable devices, [because unfortunately] not all of this has been done in partnership or co-operation with the healthcare sector itself."

In other vertical sectors, application and usage tends to have more defined projects, targets and outcomes. Here, data collected is used to enhance a proposition and increase sales growth to a specific outcome. But in the UK public health sector, the challenge for IT personnel lies in what Lovell describes as the "prioritisation of the here-and-now". Due to public sector resourcing models, this can detract from longer-term planning of the kind that's standard practice for commercial enterprises.

Wi-Fi wants

Like other sectors both private and public, NHS ICT strategies are being steered by the 'online access expectation syndrome': an implacable assumption on the part of those working in the service as well as those using it that not only should their personal communications technology be fully functional within NHS premises but, increasingly, that some baseline tech support should be provided for it.

"The challenge facing network managers in public healthcare is that the demand for mobility has rocketed in hospitals," says Rob Orford, director of healthcare at Azzurri Communications. "Hospitals now want clinical access to systems at the bedside or 'point of care'. This means that network provisioning is having to move from fixed- to mobile access via Wi-Fi."

One basic challenge lies in ensuring Wi-Fi signal coverage around campuses that often have many more enclosed spaces, access-controlled areas, restricted zones, lengthy corridors, and sensitive electronic apparatuses than open-plan offices, retail premises or public places.

For instance, Bedford NHS has more than 2,000 staff members, and contracted Xirrus to deploy its first enterprise Wi-Fi network to help enable a BYOD strategy throughout the 400-bed Bedford Hospital. The deployment enables clinicians and staff to use their own devices from anywhere within the hospital site.

"We realised that wireless networking would make it possible for clinicians and administrative staff to have access to the clinical data they need to be able to work more effectively," says Mark Austin, assistant director of clinical information and business intelligence, and one of the project leads. "Doctors now access patient pathology test results, use electronic prescribing and medicines management, or check X-rays, while doing ward rounds."

However, some of Bedford Hospital's older wards date from the Victorian era and have listed building status, so there is little that can be done to the walls, floors, or ceilings to accommodate major IT infrastructure changes.

"The paradox of wireless is for each wireless access point, you need a wire," says Austin. "Each time you deploy an extra one there is more disruption, more cabling, taking down ceiling tiles, cleaning-up afterwards… and in these old Victorian

buildings there is even the question of planning. So the fewer wireless points are needed, the less cabling and wiring is required throughout the hospital."

Innopsis believes that the 'right' assumed by staff and patients to use connected devices within a hospital is one of the thorniest dilemmas faced by NHS managers. While it's easy to see why medical professionals are likely to want to use consumer devices to manage their workload, share data and access health applications, Ward says this introduces further friction for NHS networking specialists who may not necessarily agree that this is the best way forward: "For instance, how do they then take advantage of the specialist health sensors that are becoming available for the IoT?"

Polycom warns of further dangers: "The size of an NHS trust is probably equivalent to small corporate enterprise," says Graley. "One hospital can employ 12,000 people or more, with a ratio of five devices per employee. In those kinds of environments, bandwidth is often restricted. Traffic priority is also complex and critical, as patient data and urgent communications need to take precedent compared to other protocols. The urgency of communications means that network resilience needs to be even better than in the private sector."

All change – mind the platform

According to Graley, one of the more complicating factors now facing public-sector healthcare IT managers is the diverse nature of data passing over their networks. "Healthcare runs on content. There's a lot more collaboration happening [between healthcare practitioners], and an increasing percentage of this is video. Simultaneously, real-time content sharing is also increasing. This includes patient data or medical modalities such as CT scans or test results."

He goes on to point out that for medical professionals to work effectively over networks, there has to be sufficient bandwidth availability so that the quality of these modalities are not compromised. "The data shouldn't be changed in any way that impacts how they present at the remote end, so that medical errors do not occur in the interpretation between point of store and point of viewing."

Storage of medical modalities – or methods of therapeutic diagnosis and/or treatment – is important because there is more demand for repeat access to information. In a healthcare context, information can be a recording of a team meeting, which can serve as a more accurate record than written notes, and also means communications between healthcare professionals and patients are accessible at a later date. "This will include audio and video conversations. And if patients themselves need to be able to access these recordings, then there's a real challenge for network managers in terms of securing that data when accessed externally," says Graley.

He adds that providing patients with healthcare information for their own personal educational needs is shifting to digital, especially for chronic disease management.

Before merging with the NHS South East Commissioning Support Unit (CSU), Sussex Health Informatics Service was the UK's largest CSU in terms of its user base, supporting 40,000 staff across 11 NHS member organisations. Working with its partner organisations, it provides a suite of IT offerings as well as governance, project management, training, change management and strategy for NHS trusts in Sussex and the surrounding area.

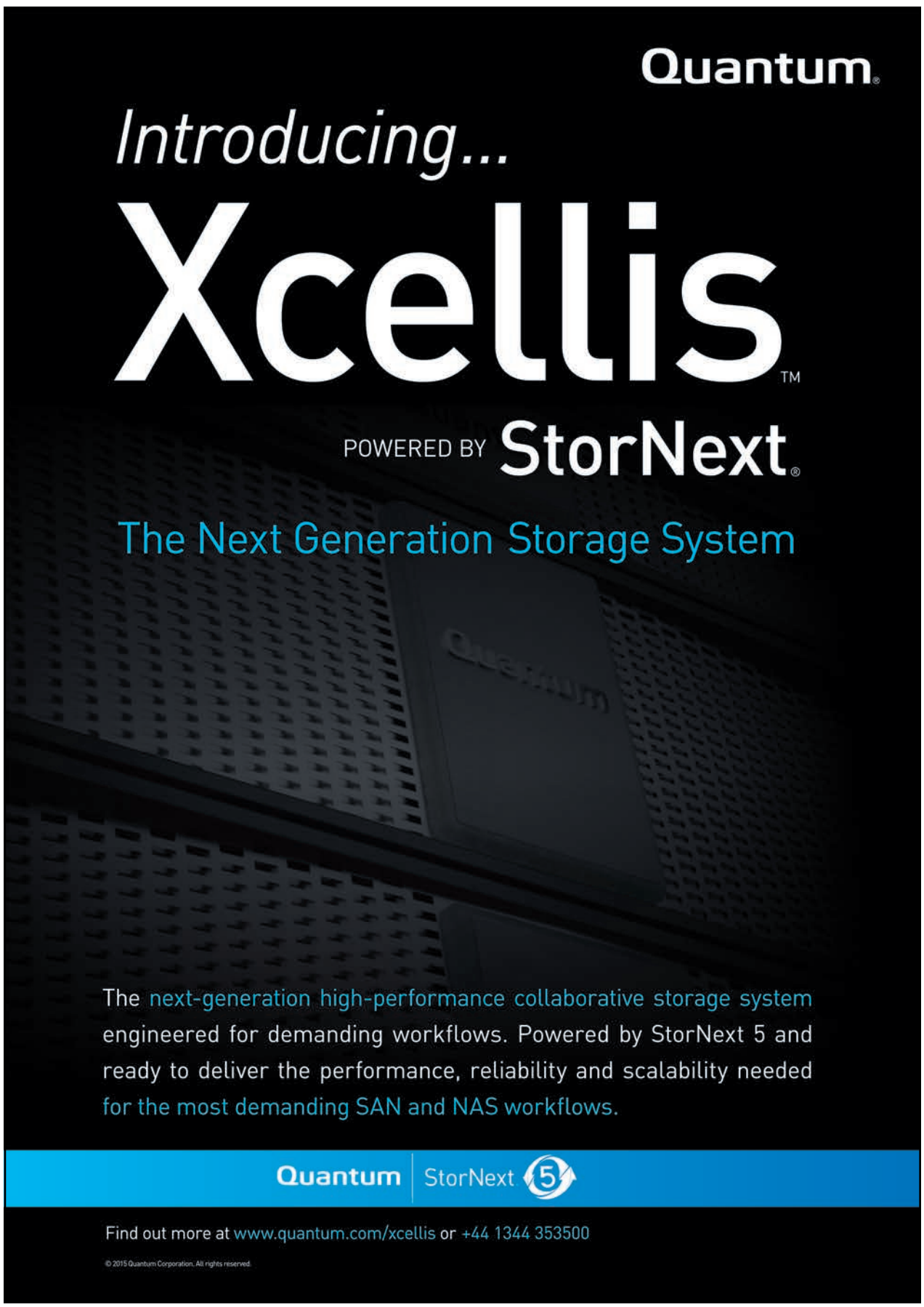
Peter Ward, the unit's senior security engineer, says a much larger number of mobile devices are now being used to deliver services. "Five years ago, users maybe brought in one mobile phone and therefore used two IP addresses – desktop and mobile device. That has certainly increased. In fact, people now will have a laptop or tablet, then a work mobile plus a personal one, and sometimes a desktop in addition. Combining all of that with the increase of tablet devices and community laptops being used to deliver clinical services, has created a challenge when costing and planning future capacity for the system."

The proliferation of connecting mobile devices was one reason why the CSU replaced a legacy intrusion prevention system with the *CounterACT NAC* platform from security management tools provider ForeScout.

"We wanted real-time visibility of all IP devices on our Sussex Community of Interest Network, and the ability for deeper inspection into suspect users and potentially unwanted applications on connected devices," Ward explains. "The platform is centrally managed across its distributed sites, and has adapted to a mixed operating environment. Any device on the network is identified and assessed against policy, providing the IT services team with instant intelligence and an automated means to address, mediate, or block any insecure IP device or person highlighted as a risk."

"You cannot expect patients to leave all of their devices at the door."

Des Ward, Information governance director, Innopsis



Is it safe?

Some experts say personal medical information is worth ten times more than a person's credit card details on the data black market. Criminal hackers will follow the money, and medical data captured and collated by end-users on 'leaky apps' and trafficked over unsecured networks presents an opportunity for the Black Hatters. Raj Samani, CTO EMEA at Intel Security, reckons they're probably already onto it.

The 'rush' for personal health monitoring apps has resulted in concerns over information security. Last September, a study from Imperial College London claimed that nearly 90 per cent of the apps that had been checked and approved by the NHS Health Apps Library were not adhering to privacy guidelines, not properly secured, and liable to leak users' personal data. Although NHS England quickly took steps to address the problems, the report raised the question of whether the health body's ongoing vetting and accreditation of such software constitutes an added resource drain likely to result in further oversight lapses.

"As the value and volume of stolen healthcare data on the black market increases, hackers [are increasingly] turning their attention to the healthcare sector," warns Samani. "The industry is crying out for a comprehensive set of security standards or best practices for healthcare apps to address underlying risks and ensure patients' personal and sensitive data is not exposed to cyber criminals."

NuData Security says beyond the apps arena, the industry simply isn't doing enough to protect patient, client, agent, and other user data from known, much less emerging, security threats. NuData director Ryan Wilk says: "Healthcare is becoming a riper target because of the ability to buy and sell large batches of personal data for profit. Medical facilities often do not have systems in place to predict and prevent unusual activity."

Innopsis' Des Ward says most hospital campus environments have the public walking through them which breaks traditional security models. "From a physical aspect, the healthcare sector has to deal with almost complete access to the general public at a level that's not tolerated in any other public sector organisation. In addition, they are obliged to share so much of their data that it is impossible to lock it down. Those are challenges that other organisations, whether corporate or public, don't face."

Ward argues that we have to stop worrying about the technology itself and start concerning ourselves with the governance behaviours surrounding information. "These behaviours rarely change despite increased regulation and technical requirements. The reality is that the broad spectrum of devices used within the hospital estate is only going to expand with the rise in applications – and you cannot expect patients to leave all of their devices at the door."

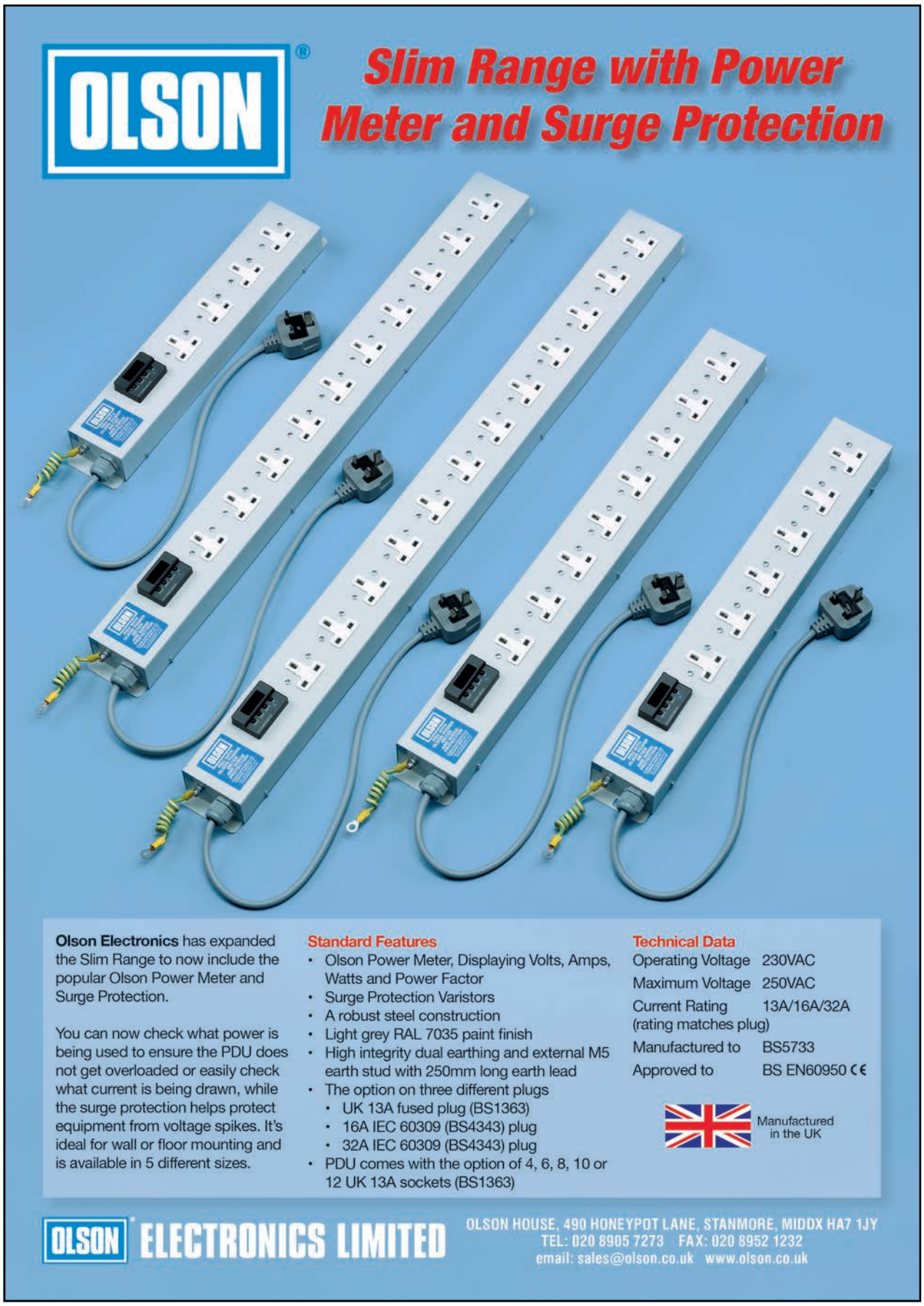
Azzurri agrees and says that mobile device management in public healthcare can throw up "unique" challenges, particularly when it comes to security. "Network managers must ensure that mobile devices are secure, and that if a device is lost, data on the device is encrypted and can be removed remotely," says Orford. "NHS security standards [must be] adhered to. What's more, network managers must ensure an effective infection control regimen and that devices can be hygienically wiped so that they do not pass-on infections."

Orford's prescription is for remedial reinforcement of the existing rules:

"Network downtime for a corporation might result in lost revenue, but in hospitals it can be the difference between life and death."

Andrew Graley, Director of healthcare, government and education, Polycom

"Most trusts have the policies in place for what they can and can't do, covering everything from phone cameras to patient confidentially and privacy. Are these policies operationally feasible? They have to be. A public healthcare system has to be able to enforce these policies because the challenges around these technological cost-efficiencies demand it." ■



off-the-shelf: storage

A place for all your bits

Not just another bunch of disks, these new storage systems could help you boost productivity and efficiency.

Buffalo says the *TeraStation 5400* is ideal for those who need a RAID-based NAS and iSCSI storage solution for larger networks and business critical applications.

The 4-drive device features Intel's *D2550* dual-core 1.86GHz *Atom* processor and 2GB of DDR3 RAM. Buffalo claims it provides "exceptional" performance during file transfers and everyday NAS functions. It says users will benefit from maximum network throughput while a replication job runs in the background, or network surveillance video is recording from multiple IP cameras, or remote users are accessing content.

The *5400* has dual Intel NICs, two USB 2.0 ports, a pair of USB 3.0 ports with accessory support, and hot-swap SATA hard drives plus a hot spare.

It offers simultaneous NAS and iSCSI target functionality, as well as support for Active Directory, DFS namespace and disk quota. Buffalo adds that the device is also Citrix-ready and VMware certified for NFS.

The *5400* comes with 11 free *NovaBACKUP Buffalo Edition* licenses from NovaStor. The backup features support failover, replication, scheduling, along with real-time replication to other *TeraStation* devices.

QNAP Systems has released the quad-core 2-bay *TS-251+* and 4-bay *TS-451+* aimed at small offices and user groups.

Each NAS is powered by a 64-bit quad-core Intel *Celeron* 2.0GHz processor (burst up to 2.42GHz) with 2GB/8GB energy-efficient DDR3L RAM. QNAP says they also include dual Gigabit LAN ports, and can deliver up to 225MBps throughput and up to 205MBps transfer speeds with AES 256-bit volume and folder encryption.

The new devices run the vendor's *QTS 4.2* NAS OS that offers various features. Users can run multiple applications on *Windows-*, *Linux-*, *UNIX-* and *Android*-based VMs on the NAS with the *Virtualization Station*, and also operate multiple isolated Linux systems. The *Container Station* feature integrates LXC and Docker lightweight virtualisation technologies, and allows apps to be downloaded from the built-in Docker Hub Registry.

QNAP claims the *QTS Storage Manager* can easily create snapshots within seconds for both volumes and LUN, and users can also carry out snapshot replica and cloning tasks. In addition, the devices offer flexible backup solutions for *Windows* and *Mac OS*, and disaster recovery solutions with real-time remote replication, rsync and cloud storage backup.

The company claims users can easily operate the *TS-251+* and *TS-451+ (above)* as a PC with QvPC technology. By simply plugging in a keyboard, mouse and HDMI display, they can directly access stored data, run multiple VMs, access 1080p videos, and more.

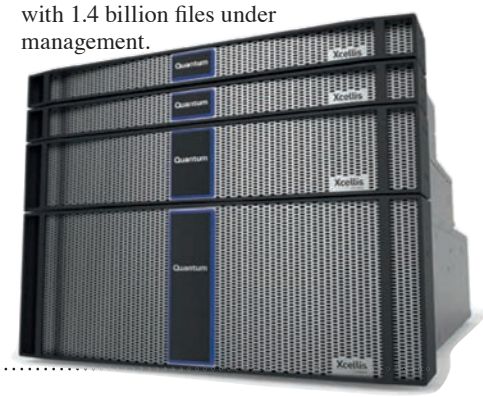
Xcellis is billed as a next-generation, high-performance workflow storage solution from **Quantum Corp**.

Powered by the firm's *StorNext* scale-out storage platform, it can be deployed as a standalone system or as the primary storage component within a multi-tier environment incorporating object storage, tape and cloud technologies.

At the heart of the solution is the new *Xcellis Workflow Director*. Quantum says this is a converged compute, network and file system controller that tightly integrates and streamlines the functionality of a *StorNext* environment. It consolidates multiple components into a single system, simplifying the overall storage architecture, operation, management and access for third-party applications.

The *Director* also controls file system metadata and client access for Fibre Channel SAN and NAS connectivity, as well as for Quantum's Distributed LAN Client (DLC) system. The vendor claims DLC connectivity offers 'better-than-Ethernet' performance over Ethernet.

Quantum says *Xcellis* is scalable as users can start with a small system and smoothly scale to the largest possible platform without having to replace original hardware or take the system down. It adds that *Xcellis* nearly doubles the number of files that *StorNext* can handle to 10 billion files in total, with 1.4 billion files under management.



TeraStation™ 3200

When Versatility wins over Power.

In the land of the Sumo, size and power can sometimes come in smaller packages, as the new TeraStation™ 3200 will prove to you. The affordable NAS solution for small businesses features an enterprise-class functional range, normally found in only high-end business storage.

- 2-bay NAS fully populated with 2, 4, or 8 TB
- CPU Marvell ARMADA dual-core, 1 GB DDR3 RAM
- Rich backup features including: Failover, Replication, and Amazon S3 cloud support

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BUFFALO™

Seagate Technology has unveiled what's claimed to be the world's first 8TB surveillance HDD. It says this is the largest drive of its kind for surveillance applications, and is "tailor made" for video storage as it keeps systems in the field longer and reduces post-deployment support.

With HD recordings now standard for such applications, Seagate reckons its *Surveillance* HDD product line has been designed to support these extreme workloads with ease, and is capable of a 180TB per year workload – three times that of a standard desktop drive.

Engineered to run round the clock, the firm says the 3.5-inch drive includes optimised firmware and can store more than 800 hours of HD content captured by up to 64 cameras recording at the same time. It is claimed to be the only product in the industry that can support surveillance solutions, from single-bay DVRs to large multi-bay NVR systems. Seagate also says the drive incorporates rotational vibration sensors enabling it to reliably perform in systems with eight or more drives.

Other features include the vendor's premium *Rescue Service* which is activated at the time of purchase and provides three years of data recovery. It's claimed that this can typically restore data within two weeks (depending on the type of recovery), and with a greater than 90 per cent success rate.

Toshiba Electronics Europe has launched its highest capacity enterprise cloud HDD. The new drives add to the company's *MC04 Series* and combine 6TB with 7,200 RPM performance.

The HDDs are designed for bulk storage systems and servers supporting cloud-based applications and scale-out workloads. With an industry standard 3.5-inch form factor, Toshiba says the *MC04*'s 7,200 RPM performance enables suitable service levels for high-performance applications and storage systems deployed in the cloud.

The company adds that the new drives deliver a 20 per cent increase over the previous generation's 5TB capacity, providing more efficient high-density, high-growth storage for multi-petabyte rack deployments. Furthermore, this latest addition to the *MC04 Series* improves ROI for scale-out storage solutions with a 20 per cent increase in power efficiency (TB/W) over previous generations, enabling more cost-effective delivery of cloud storage services.

The HDDs are said to be optimised for lower-tier workloads, and support the industry-standard 180TB transferred per year workload rating.

Available in 2TB, 3TB, 4TB, and 5TB capacities, the drives feature SATA 6.0Gbps interface speeds and Advanced Format sector technology, enabling both higher density and compatibility with legacy applications and operating environments.

Does the answer to the UK skills shortage lie in the Philippines?

Looking to nations with high educational standards and large numbers of IT and engineering graduates, such as the Philippines, could be the answer to the UK's skills shortage, according to Cloud Employee founder Nick Hargreaves.

Citing Hays' *Global Skills Index* report published in September, he said there are shortcomings in UK government policy that make it complicated for UK companies to hire talent from outside the EU.

"Many small and medium businesses in the UK aren't able to pay the high salaries that domestic and European developers command – meaning that their growth is seriously restricted or, even worse, they are forced to shut down.

Hargreaves says there is evidence from various other studies that also highlight the issue: "*The Report On Jobs* from the Recruitment and Employment Confederation found that IT professionals were the fourth most sought-after profession in the UK, and a lack of people to fill these roles was affecting companies' ability to grow. A third of respondents to this year's Tech City UK report also considered a lack of local talent to be one of their biggest barriers to growth."

He believes the best solution for UK firms in this situation at the moment is to consider outsourcing some of their operations. Hargreaves claims to have personal experience of the skills shortage, having started CloudEmployee.co.uk when his own London-based travel start-up StopSleepGo was unable to find a good developer at a fair price.

"For my company, we needed to look outside of the UK to find good developers that could provide a excellent service. We settled on Manila and set up Cloud Employee to provide web, mobile and software developers to British and international businesses. IT is one of the highest-paid sectors in the Philippines, and universities are producing 130,000 IT and engineering graduates each year."

He adds that the Philippines IT outsourcing industry is growing at an annual rate of 30 per cent, which is faster than India. It is also the third-largest English speaking nation in the world with more than 80 per cent of the nation speaking the language fluently.

Cloud Employee founder Nick Hargreaves says government policy makes it complicated to hire talent from outside the EU.

CCL opens new academy

CCL Solutions Group has opened a new academy which has the capacity to train more than 40 delegates per day in a range of courses which include digital forensics, cyber security and digital investigations.

CCL Group is the parent company for CCL Forensics, claimed to be the UK's largest digital forensics provider. The firm says more than 80 per cent of the courses on offer at the new academy in Warwickshire feature original content based on its "extensive experience and expertise".

Courses range from *Python* scripting for use in forensics investigation, through to Dark Web investigations for intelligence officers, crime and fraud investigators.

CCL adds that it is not only investing in new facilities, but also in new talent through the creation of many new jobs as it pushes forward with its strategy of business acquisition.

NEW COURSES

Energy Efficiency Best Practice – DCProfessional Development
DCProfessional Development will run the next session of this course in London on 3 December. It says the 14-hour classroom-based programme is aimed at anyone involved in the management or operation of an existing facility, or in the development of a new project.

The practitioner level course will explore strategies for the effective use of energy within the data centre, incorporating standards imposed by the EU Code of Conduct, The Green Grid, ASHRAE, BCS-The Chartered Institute for IT and the IEEE.

It builds upon the knowledge gained in DCPro's *Foundation level Data Centre Design Awareness* course. Upon successful completion of both programmes, delegates will be awarded a *Data Centre Practitioner* certificate and will qualify for the company's specialist level courses. *www.dc-professional.com*

The Ultimate Hybrid Cloud Backup Buyer's Guide – Infrascale
This 22-page free ebook from disaster recovery specialist Infrascale aims to teach readers about how "tomorrow's" backup systems work. It claims to offer everything you need to know about choosing a data backup solution that's right for you.

Written by Infrascale CEO and engineer Ken Shaw, the guide says "yesterday's" backup is all about slow, complex, and inflexible systems that aren't fit for today's growing complexities of data management.

It discusses the emergence of the hybrid cloud backup model, explaining how it works and how it solves data backup challenges. Readers will also learn the nine questions to ask when evaluating a hybrid cloud backup and recovery solution.

Download the free guide at *http://tinyurl.com/nhqfyjk*

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