

networking

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A stitch in time

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UK firms take weeks to detect cyber attacks on their networks

by Rahiel Nasir

UK companies are taking too long to identify and respond to cyber attacks, and are therefore left wide open to targeted online crime according to Intel Security.

In its *Tackling Attack Detection and Incident Response* report published in late April, the company found 25 per cent of UK enterprises took more than two weeks to detect an advanced attack on their networks last year. Moreover, 39 per cent of IT experts admitted that once a threat was discovered, it took between two weeks and three months to remove and remediate.

The study, which was carried out by the Enterprise Strategy Group (ESG) on behalf of Intel, was based on a survey of 700 IT and security professionals in mid- and large-sized organisations in Asia, EMEA, North and South America.

When asked to rank the top three most time-consuming incident detection and response tasks, 50 per cent of UK IT professionals said determining the impact and/or scope of a security incident was the highest. This includes identifying what was altered on a system, what this alteration did, and analysing whether other systems were affected.

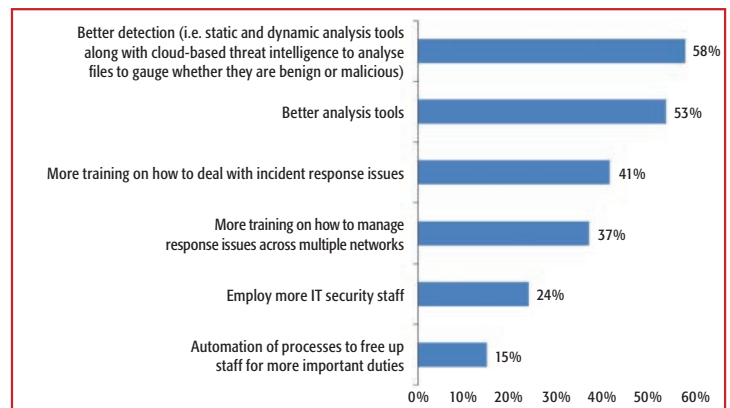
Taking action to minimise the impact, including taking a system offline and segmenting the network of an attack, came in joint second with 45 per cent. It shares its position with the task of determining which assets, if any, remain vulnerable to a similar type of attack.

Intel says feedback from UK IT professionals suggests lack of communication between the company's security tools could

be slowing down their organisations' ability to detect and react to cyber threats (78 per cent cited this as a problem). "Hackers typically use a single vulnerability within an enterprise network as an opportunity to spread their attack across the organisation,"

says the firm. "As such, companies that fail to sync up their security tools could be leaving hackers with time to spread damage across the company, before they've even had a chance to detect the threat."

(continued on p2)



700 IT professionals were asked what they thought was needed to improve the efficiency and effectiveness of their infosec staff.

SOURCE: TACKLING ATTACK DETECTION & INCIDENT RESPONSE, INTEL SECURITY 2015

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For data centre control equipment

£100m DC to be built in Fife

Fife has been chosen as the site of Scotland's largest co-location data centre campus.

As part of development plans that are approaching £100m, two cloud hosting facilities will be built at Queensway Park in Glenrothes. The first of these will cover an area of more than 90,000ft² and is hoped to be ready for occupation towards the end of 2016. It will feature large halls for high-performance computer racks, office accommodation, a security centre, client space and facilities management.

Built according to BREEAM "outstanding standards", the data centre will target a PUE rating of under 1.15, making it one of the most efficient in the world. It will draw power from the adjacent RWE Innogy biomass plant which produces some 65 megawatts of electricity. It will also use precision air handling systems with excess heat being used in adjoining offices.

As well as completely diverse power supplies ensuring maximum uptime, Queensway Park will feature high-speed fully resilient fibre architecture from a number of carriers to provide ultra low latency regardless of traffic volume.

Queensway Park Data Centres (QPDC) is a joint venture between commercial property developer AOC Group and County Properties Group, one of Scotland's longest established private property firms. The two groups worked closely with Invest in Fife.

QPDC says the next-generation technology it will deploy will help Scotland compete globally as more data moves to the cloud. The company's director Alan O'Connor says: "Interest in the Fife facility has been strong, and although we are building towards shared or co-location facilities, we are not ruling out the possibility of a single user requirement." ■



Clinical staff can now access their desktop sessions easily and securely from anywhere and on any device.

Virtualisation saves time at Portsmouth Hospitals

Portsmouth Hospitals NHS Trust will use Citrix iDesktop to provide clinical staff with anytime, anywhere access to desktops and applications. It hopes the technology will ultimately enable quicker decision-making, enhanced patient care, and significantly reduce IT-related hardware costs.

iDesktop is built on Citrix's XenApp and XenServer. The system uses the vendor's NetScaler for load-balancing across the network, and delivers a Windows 2008 R2-based virtual desktop to around 2,000 thin clients. Citrix says these cost three times less than a PC, and have a significantly longer life. Legacy applications are delivered using XenApp and Microsoft Application Virtualisation.

iDesktop is a persistent and hosted shared desktop that is available to authorised users from any terminal within the hospital. Clinicians can instantly access their desktop by tapping their security cards on a terminal's RFID reader, and instantly retrieve their working session from another ward.

It's claimed quicker access to patient data has resulted in staff saving up to two hours per shift. "This is the first IT system that has actually made my life easier," says Dr Mike Bacon of the acute medical unit. "Before iDesktop, it could easily take five to 10 minutes per case simply to access medical records – [and] we would typically see 20 to 25 cases each shift."

Jonathan Murden, the trust's IT operations manager, says the service desk is more proactive now, finding problems in advance and noticing trends. "We can focus on key areas rather than fire fighting the end-user experience."

Based at the Queen Alexandra Hospital, Portsmouth Hospitals NHS Trust serves a population of more than 650,000 people and employs around 6,000 staff. ■

End of Server 2003 represents "biggest security threat" of 2015

On 14 July, Microsoft will no longer issue hotfixes and security updates for Windows Server 2003 as it stops supporting all versions of the operating system.

More than 11 million servers around the world are said to be still running the 12-year-old platform, and of these 1.6 million are expected to miss the July deadline. Experts are now warning that a lack of industry awareness has left the majority of organisations unprepared and seriously at risk.

The US Department of Homeland Security recently issued an alert which described the end of Server 2003 as a "critical" threat to the country's cyber security. And application management specialist Camwood believes it will represent the "biggest" security threat of 2015. The firm says that after the recent migration away from Windows XP, IT departments should be more aware than ever of the dangers of

Camwood CEO Ade Foxall is expecting to see security weak spots left by poor OS management across millions of devices worldwide.



using an outdated platform.

"While this issue may not generate the same levels of interest as viruses and hackers, the truth of the matter is that these things would be far less common if it weren't for the security weak spots left by poor OS management," says Camwood CEO Ade Foxall. "It is these security weak spots that we are now expecting to see across millions of devices all around the globe. This is why we consider Server 2003 to be the most significant IT security

threat for the year to come."

In a recently published white paper, *Server 2003 is dead. What are you going to do?*, Camwood said Microsoft had to issue 37 critical updates to Windows Server in 2013 alone. It warned: "Any 'holes' in Server 2003 after support ends will represent a glaring vulnerability that professional hackers will be aware of."

However, perhaps most serious will be the potential for businesses to fail compliance audits due to the continued presence of Server 2003. Camwood says failure to meet the obligations stipulated within the EU Data Protection Directive, the Sarbanes-Oxley Act in the US, or any of the many sector-specific articles of governance, can result in serious repercussions, hefty fines or considerable damage to not only an organisation's reputation but also its share price. ■

Bournemouth joins SuperConnected Cities scheme

The Bournemouth City region has been added to the government's SuperConnected Cities voucher scheme. For the purposes of the scheme, the region encompasses the BH and DT postcode areas, enabling local businesses to benefit from grants of up to

£3,000 towards the costs of upgrading to a better business broadband connection.

SMEs and voluntary organisations are eligible for the vouchers which can be used to fund a wide range of technologies including fibre, Ethernet, leased lines and wireless.

In a recent study of the UK's digital sector, Tech City said Bournemouth is now the fastest-growing technology cluster in the country and a "great" place to do business.

According to local firm C4L, this growth is fuelled by access to ever-faster broadband technology. The company is a registered supplier for the area and claims to be the region's largest ISP as well as the

main infrastructure provider for Dorset.

"We have already deployed huge connectivity infrastructure at our data centre based in the heart of Bournemouth," says C4L chairman Matt Hawkins. "This government initiative allows us to extend our high-performance network directly into Dorset enterprises. In many cases, the connection voucher covers the set-up costs entirely, effectively removing the barriers to the service."

Since being launched in 2013, the SuperConnected Cities scheme has been expanded and now covers 50 cities. It was due to finish this year but the deadline has been extended to March 2016 (also see News, Oct 2014). ■



C4L chairman and founder Matt Hawkins says in many cases the connection voucher covers all set-up costs, thus removing barriers to the service.

UK companies open to cyber attack

(continued from p1)

Access to analytics tools also came up as a key issue for UK enterprises, suggesting manually analysing compromised data is slowing responses in the first critical minutes of an attack. Thirty-nine per cent said they need better automated analytics from their security intelligence tools in order to gain real-time and comprehensive security visibility at their organisation.

Beyond lack of necessary tools, 80 per cent said they suffered from a shortage of IT

security skills amongst staff. However, less than half (40 per cent) of UK firms surveyed said they are currently recruiting security talent – the lowest number globally. This compares to 78 per cent in the US, 73 per cent in France and 61 per cent in Germany.

Raj Samani, Intel Security's EMEA CTO, says hackers don't hang around and enterprises only have a short window of opportunity in which to detect and deflect an attack, and minimise damage.

"Investing in training to ensure the

Intel Security's EMEA CTO Raj Samani says hackers don't hang around and enterprises only have a "golden hour" in which to detect and deflect an attack.



company's security team has the expertise to deal with a threat is crucial," he says. "Meanwhile, automating processes and ensuring security tools are synced across the network is a key way to ensure companies are able to act fast in their 'golden hour' of an online attack." ■



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KBR to provide Wi-Fi at Tour of Britain

Gateshead-based KBR Wireless Networks is to provide mobile Wi-Fi at this year's Tour of Britain cycling race which takes place on 6-13 September.

KBR technical director Gareth Tomlin says the plan for the Wi-Fi network is being finalised at the moment and is 99 per cent likely to feature Meru Networks' equipment. "Meru have already offered to provide the hardware and we're familiar with their technology. For the access points we'll be using Global Reach's *Odyssey* [software]."

Tomlin adds that KBR will provide separate Wi-Fi networks for the public and staff, as well as the media. Public users will be able to access the network using a guest log-in page which will also provide social media log-in buttons.

Many of the APs will be placed on speakers, with about a dozen placed just beyond the finish line in Blyth as large numbers of spectators are expected to gather there.

Race organisers SweetSpot Group hopes providing outdoor Wi-Fi will generate more public interest in cycling and promote an active lifestyle, while at the same time adding to the enjoyment of the race's spectators.

The Tour of Britain is said to be the country's biggest professional cycling race. It covers 1,451km in eight stages across north-east, north-west and east England, Scotland, the Midlands, Wales and London.



Spectators at the Tour of Britain will be able to use Wi-Fi to keep up-to-date with event information and results.

SweetSpot and KBR plan to provide Wi-Fi at all stages of the event, which last year featured top cycling stars such as Sir Bradley Wiggins, Mark Cavendish and Marcel Kittel. KBR will also provide outdoor wireless networks at the Women's Tour 2015, which gets under way in Bury St Edmunds, Suffolk, on 17 June.

Potato to feed demand for data skills specialists

A new recruitment site has been launched to help data and analytics professionals search for their next career move.

www.lpotato.com describes itself as a jobs aggregator. It's designed to pull in opportunities from both employers and recruitment consultants worldwide, and then indexes them individually to help candidates find suitable jobs with a minimum of wasted time.

Citing evidence from various sources, the website's developers say millions of new jobs are forecast globally over the next few years for those with skills in the booming data and analytics sector.

Ipotato's Nick Thomas says the new site was developed to fill the gap in online recruitment services for Big Data specialists.



For instance in research published last October, the Tech Partnership and SAS UK said the Big Data workforce is expected to grow by around 346,000 professionals by 2020, pushing the rate of job growth in the sector up by 160 per cent (see *Network Knowledge*, Nov 2014).

The skills covered at www.lpotato.com are humorously defined by five types of potato: 'chips', 'roast', 'mash', 'new' and 'jacket'. For example, the company explains 'mash' is for those with a focus on analysing unstructured data, and 'jacket' for the less



THE WORLD ACCORDING TO...

Brandon Tanner, senior manager, ITS

Why hybrid-infrastructure DRaaS is the way of the future

Disaster recovery as a service (DRaaS) is set to grow by 55 per cent from 2013 to 2018, according to research company MarketsandMarkets, and IT providers are increasingly offering hybrid infrastructure DRaaS, according to 451 Research. Other research by the two companies suggest that storage budgets at organisations around the world are shrinking.

451 Research's survey revealed that large enterprise budgets took an average hit of 22 per cent, while mid-sized enterprise budgets fared only slightly better, with a 19 per cent cut.

DRaaS helps bridge the gap between data storage needs and dwindling budgets. For many businesses, the solution is more cost-effective than dedicated on-premise data centres or colocation solutions, since cloud providers typically charge only for the capacity used.

In addition, the elimination of redundant data and compression maximise storage space and further minimise cost, making DRaaS accessible even to SMEs, which have previously found the cost of DR solutions prohibitive.

For businesses that need to maintain data and systems outside large networks, using an appliance helps cut down on hardware investments and maintenance.

As capacity grows, businesses have the potential to leverage various cloud models – private, community and public – depending on the use case. When recovery is necessary, data stored in the cloud or on the appliance can be restored to virtual machines.

DRaaS addresses this challenge by easing the burden on IT staff. The vendor is responsible for managing the solution and in some cases will collaborate with the business to design a strategy that ensures the client can meet its RTOs. Some vendors, though not all, will also manage the data contained in a storage appliance at the customer's facility.

Some businesses cite security concerns as a reason for not wanting to move mission-critical assets to the cloud, while others point to regulatory issues. But with the right controls in place, organisations can gain the benefits DRaaS provides while maintaining strict security and compliance standards.

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networking is published monthly by:
Kadium Limited, Brassey House, New
Zealand Avenue, Walton-on-Thames,
Surrey, KT12 1QD, United Kingdom.
Tel: +44 (0) 1932 886 537
Fax: +44 (0) 1932 886 539
www.networkingplus.co.uk

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

Printed in England by
Polestar Stones.
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ABC audited circulation:
19,679
1 Jul 2011 –
30 Jun 2012

technical business types managing and marketing data agencies. Salaries range from 'small potatoes' to 'serious wedge'.

At present, the site has around 700 listings which are focused on the UK. But in the next few months it is aiming to increase this number and expand coverage globally, particularly focusing on the UK, US and Asia. Candidates can sign up for free and register to receive email alerts.

Ipotato is the latest venture from London-based MrWeb, which has been running a global job board for market research

professionals since 1998, and also publishes the Daily Research News service.

"There's a fair bit of overlap between the two areas," says MrWeb MD Nick Thomas. "The launch of Ipotato is in part a response to persistent requests from MrWeb's advertisers over the last 10 years for something specifically covering data and analytics."

"Growth in the area has obviously accelerated very rapidly since about 2012 with the meteoric rise of Big Data, but at present there's not a lot resembling this service, either here or elsewhere."

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EX Networks “blown away” by Volta

EX Networks has joined forces with Volta Data Centres (VDC) to deliver connectivity for companies looking to move in-house IT support to the cloud. EX Networks has installed its equipment at VDC's carrier-neutral Great Sutton Street site in London. It will offer clients a team of data centre engineers, managed racks and end-to-end solutions. EX Networks has 400 customers across the UK as well as users in Australia, Russia, USA, Nigeria and Greece. It says it was attracted to VDC's high power availability and connectivity offering (also see *News*, Jan 2015). “We went on a tour of Volta and were completely blown away,” says MD Volkan Dil. “There are not many centres that rival it in central London in terms of overall spec and resiliency.” ■

Peterborough fibre network completed

CityFibre has completed its 90km *Gigabit City* network in Peterborough, less than 11 months after starting construction. Known as the *Peterborough CORE*, the network connects 107 public sector sites, including offices, data centres, hospitals and schools, providing a future-proofed network for the council and its IT services provider Serco. CityFibre announced the completion in mid-March although it still needed to handover a final group of council sites. The firm continues to build gigabit networks in other cities which includes ongoing projects in Coventry, Aberdeen, York, et al, as well as in Edinburgh where it has recently undertaken its largest metropolitan network (*News*, Mar 2015). ■

Secure IT Environments to build Solihull DC

Modular data centre specialist Secure IT Environments has won the tender to build a new data centre at Solihull Council. The 390m² facility will house the council's IT infrastructure, including servers and data storage. The project was due to start at the end of April and aims to enable Solihull to improve energy efficiency and the quality of digital services it provides to staff and the general public. Secure IT Environments says an increasing number of councils are moving online. The firm's projects director Chris Wellfair says: “Eventually, online will become the primary way citizens gain access to council services.” ■

Many European organisations unable to deploy UC across their WANs

European firms are not making the most of UC technology despite understanding its benefits, according to research commissioned by Easynet. In a survey carried out with IT decision-makers of companies with more than 1,000 employees across all sectors, it found that enterprise usage of UC is lagging behind demand.

Having access to the latest networking technologies such as UC across all sites was acknowledged by all organisations as bringing important business benefits, with 60 per cent seeing improved efficiency and 45 per cent improved agility.

But almost half of respondents (49 per cent) revealed their WAN infrastructure would require network upgrades at some sites or locations to fully benefit from the technology, and only 29 per cent said they were currently able to fully support UC across all sites.

Easynet UK MD Adrian Thirkill believes “intelligent” or hybrid networks remove the need for massive upgrades.



Easynet says the degree of UC network readiness varied across countries. However, even in the most prepared countries – the Netherlands and Belgium – less than half (40 and 37 per cent respectively) believed they could roll out UC at present. In the UK this figure was just 28 per cent.

The study also disclosed a large diversity in network readiness amongst industries. The sectors most able to roll out UC across the enterprise were telecoms (40 per cent),

business and consumer services (41 per cent) and IT/computer services (38 per cent). Those with the least UC-ready networks were found to be manufacturing at 19 per cent and banking/financial services at 21 per cent.

Adrian Thirkill, UK MD for enterprise at Easynet said: “Companies across sectors recognise the business advantages of running UC across their enterprise, yet this research highlights that only just over half of European organisations are currently able to do so.

“Intelligent or hybrid networks remove the need for massive upgrades, and service providers delivering these can help organisations make the most of their corporate networks and maximise the return of their existing UC investments in order to be as efficient and competitive as possible.” ■

Do fixed lines become redundant in a UC environment? Feature pp10-13.

SSE launches LIGHTNOW service in Manchester

SSE Enterprise Telecoms is launching a new high-capacity, ultra-resilient optical networking service in Manchester. *LIGHTNOW* is said to provide 1Gb and 10Gb connectivity, linking nine of the city's busiest data centres to dedicated centres in London.

LIGHTNOW provides meshed connectivity in and around Manchester and on to London. The Manchester data centres include: DataCentred; Dock 10 in Media City; M247; UKFast; MaNOC 6; and Telecity Group's Joule House, Kilburn

House, Reynolds House, Synergy House and Williams House. SSE says they will benefit from multi-gigabit optical wavelengths with sub-1ms latency, and can be rapidly provisioned within a week.

The new service follows the company bringing seven new Manchester-based data centres onto its national network (see *News*, Mar 2015). SSE's original *LIGHTNOW* London service was part of its Project Edge network expansion. This saw the company increase the reach of its

fibre network to more than 13,700km with a total of 234 POPs, serving more than 200,000 metropolitan business postcodes, nationwide.

“The expansion of the *LIGHTNOW* service builds on its success in London,” says SSE Enterprise Telecoms MD Colin Sempill. “Our ambition is to design a data centre portfolio that makes a real difference to our customers, supported by a network infrastructure that has no tolerance for downtime.” ■

University of Winchester's security goes BeyondTrust

BeyondTrust has helped the University of Winchester deliver campus-wide security while reducing IT management overheads.

“Our security policy is very much prevention rather than cure,” says Ian Short, the university's applications infrastructure manager. “We have to protect and support around 1,800 *Windows* desktops for around 8,000 students and 1,000 members of staff across 16 different departments and over 160 applications. We also have *Windows* back-end servers running in an *Active Directory* environment.”

Several years ago, the university found that managing user administrator privileges was a simple and effective way to make its security more robust and minimise the risk of malware



Winchester needs to protect a large IT estate.

attacks. However, it could not lock down the entire network because of the flexibility some users require. For instance, some staff need their privileges to be elevated so that they can install and manage applications themselves.

As a result, Short and his team looked for

a solution that would automate the privilege management process yet remain flexible without increasing management overheads.

It therefore deployed BeyondTrust's *PowerBroker* for *Windows* desktops and servers, a centralised platform that uses what's described as a ‘least privilege’ model.

“Since we took that step, we have completely removed automatic administrator rights among our users, while simultaneously providing adequate rights to perform the tasks that students and staff need,” says Short. “The added bonus is decreased time spent dealing with user support issues, meaning that the team can spend more time on other activities.” ■

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Hedvig prepares to 'reinvent' distributed data storage model

Silicon Valley company Hedvig is promising to reduce provisioning time and costs to "small fractions" of what it would take with today's more traditional storage technologies.

By using its patented *Distributed Storage Platform*, Hedvig says data centres can consolidate storage of any type or location into a virtualised pool. Complete protocol consolidation is said to be enabled by collapsing several layers of the storage stack into a single software platform. This gives users an elastic, hybrid cluster that can grow incrementally to thousands of nodes by simply adding additional commodity servers.

According to Hedvig, the platform has the ability to scale from several terabytes to petabytes, and "seamlessly" spans on-premise, private and public clouds.



Hedvig CEO Avinash Lakshman says the firm's distributed storage system looks like the internal infrastructure at Google and Amazon.

It adds that policy and provisioning processes that usually take hours, days or weeks now take just a few clicks and can even be performed from mobile devices.

Hedvig has secured \$12.5 million of funding to take its products and services to market. It was founded by Avinash Lakshman whose background is in building distributed computing systems at Facebook and Amazon, and creating platforms such as *Cassandra* and *Dynamo*.

Lakshman's experience made him realise that he could apply a distributed systems approach to storage. He says Hedvig's storage platform looks like the infrastructure that Google, Amazon and Facebook run internally, but is "packaged to bring that capability to any enterprise data centre".

Brian Long, general partner at Atlantic Bridge, which is working with Hedvig on the new technology, says: "Storage platforms that were built just five years ago cannot handle modern workloads which are complex, heterogeneous and spread across internal data centres and the cloud.

"To keep up with this rapid pace of growth and change, storage platforms must now be software defined. They must also be scalable, streamlined and most importantly, flexible enough to make instant provisioning changes."

BT launches 'cloud of clouds'

BT has launched a new service that it claims will enable large, multinational organisations around the world to connect to the data and applications they need, independently of where they are hosted.

The new *Cloud Management System* is part of what BT calls its "cloud of clouds" vision. The company says this roadmap for future service delivery is underpinned by a wide range of services and industry sector solutions, delivered over its global network infrastructure.

Using the *Cloud Management System*, BT says customers can manage a variety of services via a single "user-friendly" catalogue. IaaS and SaaS, "seamless" provision and integration of cloud and non-cloud services, and integration of private, public and hybrid clouds are among some of the services on offer.

The firm adds its system also provides freedom of choice for customers by bringing together the best services in the cloud from BT and from partners such as Amazon Web Services, Cisco, Equinix, HP, Interxion, Microsoft and Salesforce.

"In the future digital age, no business will be successful unless it makes the most of the cloud," says BT Global Services CEO Luis Alvarez. "CIOs ask for choice and flexibility, trusted security and the best know-how in the industry to meet their business challenges.

"This matches perfectly with our network-centric vision of the 'cloud of clouds' and leverages the experience gained through the cloud ecosystems we have already built for the global financial services and life sciences sectors."



KNPO says that by wearing its special brightly coloured beads, children become more visible to drivers and are therefore less vulnerable to traffic accidents.

Interoute supports KNPO mission to cut child traffic deaths

Interoute is supporting the *Beads* initiative from Kids Non-Profit Organisation (KNPO), a charity dedicated to reducing the number of child deaths caused by traffic accidents in developing countries.

KNPO manufactures and distributes colourful reflective beads that can be made into bracelets, headbands and bag decorations. The beads reflect the beams from a car's headlights and are said to make the children five times more visible to drivers. KNPO's campaign is supported by the World Health Organisation, and over the past year it has already distributed millions of beads.

Interoute, which claims to own and operate Europe's largest cloud service platform, is providing the organisation free use of its *One Bridge* cloud-based UC solution. The service will help KNPO connect and collaborate with volunteers and ethical production partners around the world on a daily basis.

Interoute adds that *One Bridge* is accessible anywhere and on any device. It offers WebRTC capability as well as unlimited video and audio conference bridges that use local direct dial numbers in more than 40 countries to reduce costs.

KNPO founder Richard Ahlström says using *One Bridge* saves money for his organisation which means it can produce more beads and ultimately save more lives.

Ahlström launched KNPO in 2013 after he visited Malawi and was shocked by the danger he witnessed there on badly lit roads.

"I wanted a way for the children to be seen in the dark that was both fun and educational for them, which is how I came up with the idea of the beads. The beads are made of biodegradable sugar cane, corn, sugar beets and cassava, so if a bracelet breaks or falls on the ground, it will only take about a year for it to break down naturally."

Iland helps K&A soothe the "headache" of a private cloud

Khatib and Alami (K&A) is said to have reduced costs by 40 per cent following a migration from private to public cloud. The international design consultancy is leveraging Iland's enterprise cloud and disaster recovery services as the IT backbone that runs and protects its mission-critical applications.

K&A offers services in a number of areas including architecture and engineering, power and electrical utilities, telecoms, and others. It has operations in the Middle East, Africa, Western Europe and North America. K&A

The firm initially made the move to a private cloud hosted in an Iland data centre as part of its strategy to consolidate the IT environments that supported its numerous global offices. During the transition, K&A

also experimented with public cloud by implementing Iland's Disaster-Recovery-as-a-Service to support business continuity, should anything happen to its private cloud.

But the firm says its rapid growth began to outpace the efficiency and scalability capabilities of a private cloud. "All of the maintenance and management headaches and the fact we needed rapid scalability helped us come to the decision that having our own private cloud infrastructure was just too much of a hassle," says corporate IT manager Mohamed Saad.

As a result, K&A migrated its production global IT operations to Iland's public *Enterprise Cloud Services* in London. It also implemented a disaster recovery plan with failover to the vendor's Manchester cloud data centre.

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Barclays fast-tracks Wi-Fi

In recognition of customer demand for in-branch Wi-Fi while they waited to be served, Barclays Bank decided to fast-track its idea to install wireless internet connectivity in 1,600 of its UK branches.

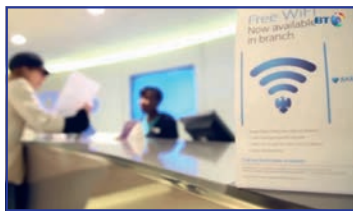
Called *BarclaysFreeWifi*, the network puts "customer service innovation in the hands of employees", says the company. For example, staff could encourage the use of Barclays' online apps and give them on-screen guidance on how to use them.

The system was installed by Barclays' long-standing partner, BT. It has previously deployed a range of technologies from the telco including its global WAN, Radianz financial network services, and voice, online payments and security platforms. BT's white label Wi-Fi solution features *Wi-Fi Protect* which offers additional security on top of the filters against rogue sites which are already included as standard.

Barclays initially piloted the Wi-Fi solution at three high street branches before rolling it out to a further 1,600 sites. "The feedback from customers and colleagues at the pilot branches was terrific," says Peter Josse, co-head of infrastructure at Barclays. "This was a unique opportunity for us. The time scales we set ourselves were very challenging."

In fact, the bank wanted to finish the job in just six months – an average of more than 250 branches a month.

The implementation team included staff from the Barclays IT department led by a BT Wi-Fi project manager. The team worked with hardware suppliers and cabling installers, while BT sorted the target branches into four categories based on footfall and projected bandwidth needs. The plan was to install Wi-Fi at each branch on a single visit including cabling, routers, wireless APs, and broadband connections.



At the project's peak, more than 25 branches were each being connected up every day. "The speed of the rollout was incredible," says Barnaby Davis, managing director, UK branch network, Barclays. "Before you knew it, the majority of our branches had free Wi-Fi. It was a phenomenal pace of change, and really impressively done."

SOF saves thousands by moving to the cloud

When SOF Investments decided to move offices, partner Ian Gascoigne had to consider the firm's ICT options. "We soon realised that by moving away from our parent company, we would be without their IT system and support, and we would have to do something new," he says.

Gascoigne says the main challenge was to migrate SOF Investments' entire system to the cloud in order to make it ready for the move to the new premises. To help do that, it chose TechQuarters, a London-based cloud solutions specialist.

SOF specifically asked TechQuarters to: move its email from an on-premise system to *Office 365* and collaboration data to *SharePoint*; set up a domain controller to manage the new network in *Azure* while providing a data repository for legacy data; install a new switch and firewall at the new offices; roll out and connect new desktops, laptops, devices and printers; and provide the SOF team with support as they moved to the new office and new network.

Despite the apparent complexity of the job, the entire migration took just two weeks. TechQuarters adds it was able to ensure the new system was in place before the day of the move, which meant no losses in business productivity and that any issues could be resolved immediately.

SOF says the new working setup has resulted in increased productivity, reduced management time, complete control over infrastructure, and ongoing fast response support. "TechQuarters have fixed 66 per cent of issues within eight hours, and the rest within 24 hours," says the firm.

Furthermore, the solution has brought dramatic cost savings: SOF's electricity



costs have decreased as it is no longer powering an on-premise database, and it has also saved a significant amount by migrating to the cloud using *Office 365*. This is said to have saved almost £7,000 in hardware and software costs for SOF.

TechQuarters CEO Chris Dunning adds: "In looking for a new network solution, it was critical we found a solution which could offer the data security, business continuity and disaster recovery, which are essential to a regulated financial services business, while maintaining flexibility and cost efficiency."

"A cloud-based solution offered the opportunity to achieve enterprise level storage and flexible working functionality without the requirement for significant capital expenditure on servers. TechQuarters seamlessly helped us plan the move and migrate to the Microsoft cloud. Their consultant was efficient, helpful and delivered exactly what they said they would do, without any hassle."

Temenos provides Metro Bank with IT platform

Metro Bank was founded in 2010 with the aim of capturing at least five per cent of the estimated £700 billion London deposit market within the first 10 years of opening. To do that, it needed an IT system that matched its ambitions.

The bank claims it now has a highly efficient IT platform which has enabled it to "neutralise" many of the scale advantages enjoyed by large banks.

Metro is using *T24* from Temenos as its core banking system. The Swiss-based company says its specialist software is a "modern, integrated and fully upgradable solution" that gives the bank a complete and real-time view over its business and

its customers and across all channels. Temenos goes on to claim that it does all this at a fraction of the cost of running legacy or other third-party applications".

T24 is delivered as SaaS and is said to be the only fully integrated, out-of-the-box solution for the UK financial sector. Temenos goes on to describe it as a complete front- to back-office CRM and product lifecycle management software platform that powers core banking operations.

According to the company, *T24* allows a vendor to host an application on behalf of a customer and provides access through the internet, normally in exchange for a monthly or quarterly rental.

Metro Bank is using the platform on a hosted, pay-per-use basis. Temenos says this minimises the level of upfront IT investment needed by an estimated two-thirds of a start-up bank's initial costs. It also means IT becomes a variable cost that flexes with account numbers and transaction volumes.

Temenos says Metro's usage of *T24* is charged according to an account-based pricing model and is therefore linked to its business plan. That means Temenos shares the business risk with Metro and that bank only pays for what it uses.

Furthermore, a monthly payment model for all *T24*-related charges allows Metro to better control its cash flows.

The platform has also given the bank the ability to open a customer account and issue a new debit card in 15 minutes, which is claimed to be much faster than rivals.

"We have state-of-the-art IT systems that are infinitely scalable," says Anthony Thomson, chairman and founder, Metro Bank. "Temenos probably spends more updating their system every year than any bank could ever afford to spend. If you build a system, it is obsolete the day you start, whereas ours will constantly be updated due to this partner investment."



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While mobile devices give consumers a wide variety of options that landline phones cannot, fixed line infrastructure still has a unique place in enterprise networks.

Fixed or mobile in the unified comms world?

Enterprises are deploying IP telephony and UC to improve collaboration, increase worker productivity and reduce telecoms costs. LESLEY HANSEN looks at whether these benefits are best delivered via mobiles, and if fixed line infrastructure therefore becomes redundant.

A key part of the unified communications (UC) proposition is the promise of a more consistent user experience across a wider range of communications channels and features, including mobile users.

To achieve this, a critical task is to tightly integrate the server-based communications products and application functionality into the UC infrastructure. This involves a convergence of telephony PBXs, email and calendaring, voicemail, audio conferencing, web conferencing, and instant messaging. It also encompasses rich presence server applications; multi-party video-conferencing functionality; and improved access to corporate communications features for mobile staff through mobility applications such as enterprise-class email software.

We often hear how the fixed infrastructure is being used less in the public network. This is because for the consumer, mobile phones provide a large variety of options that landline phones cannot. Mobiles offer a quicker way to communicate with friends, family and business associates.

In the business world, applications exist that will extend voice and UC applications to a wide range of mobile platforms including *Android*, *BlackBerry*, *iOS* and *Nokia's*, while integrating with major PBX and UC systems such as *Cisco*, *Avaya*, *Nortel*, *ShoreTel* and *Microsoft*. Users can leverage a single converged device for both business and personal communications, and access desk phone and UC capabilities on their devices without having to learn a new interface.

So what effect do fixed line and mobile platforms have on the UC objectives of improved collaboration, increased worker productivity and reduced telecoms costs?

Improved collaboration

A collaborative working environment supports people in both their individual and cooperative work, thus creating a new class of 'e-professionals' who can work together irrespective of their geographical location.

Bandwidth issues at fixed locations originally limited full use of collaboration tools. This has improved as cabling developments have delivered support for greater bandwidths to the user. However, while these issues have now been resolved in cabled environments, they are made worse with the use of mobile devices.

Despite this, business collaboration is increasingly taking place on smartphones, media tablets and next-generation IP phones. IT and telecom managers are being asked to extend voice, video, messaging, conferencing, and social desktop collaboration experiences to a wide variety of mobile devices.

Mobile collaboration utilises wireless (Wi-Fi), cellular, DECT and broadband technologies to enable effective collaboration independent of location. For instance, traditional video-conferencing was once limited to boardrooms, offices, and lecture theatres. Today, technological advancements have extended its capabilities for use with discreet, hand-held mobile devices, permitting true mobile collaborative possibilities.

Collaboration as a benefit of UC is equally valuable to the enterprise whether mobile or fixed infrastructure is used. The main challenges for businesses are related to providing a scalable design that can support new mobile users and applications without affecting the performance of existing

network applications, and ensuring that performance is not degraded for bandwidth sensitive voice and video applications.

Improved employee productivity

It is a simple fact in the corporate world that when time is saved, money is saved. And having access to the right information quickly and easily will save employees time. According to one report, if UC is applied to 50 company workers each with a salary of around €40,000, the expected annual savings will be in the region of €942,000.

In a modern workplace, employees communicate using a variety of devices and technologies such as text, email, voice, video-conferencing and instant messages. In order to maximise employee productivity, a business needs to maintain efficient and effective communications both within and outside the organisation. Mobile connections for maximising employee productivity are therefore key.

Reducing telecoms costs

A major part of the reduction in communications costs from deploying a UC solution relates to the cost of inter-site connections. These have been cut with the introduction of SIP trunking – firstly by the convergence of voice, video and data which reduces the wasted bandwidth, creates more efficient connections, and makes better use of the available capacity; and secondly, by the reduction in the costs of connections.

A report by Infonetics Research found that of the respondents to a survey of North

American businesses, 58 per cent said they will use at least some SIP trunks in 2015. That's a dramatic shift from 2013 when 38 per cent said they used some SIP trunking.

SIP trunking involves connecting all corporate voice traffic to service providers' networks over a single IP connection rather than over multiple TDM lines. Telecoms savings of up to 50 per cent can be had depending on the individual network.

Businesses can expect further cost savings to come from cutting the amount of hardware needed to terminate copper circuits at corporate sites, therefore reducing maintenance. Locally, mobile users are still typically connected to other sites and to the internet using SIP trunks, so this element of cost saving applies whether in a fixed local infrastructure or a mobile one.

A second key area of telecoms cost saving with UC and IP telephony is the moving, adding or changing of users connected to the network. Research shows that in fixed networks the largest single block of IT staff time is spent on moves/adds/changes (MACs) of users. Problems with Ethernet ports, cables, server and application access, securing sensitive data while allowing selective access, all complicate the administration of user accounts and raise network maintenance costs.

Traditional MAC savings are calculated on the basis of €100 for each change saved for larger businesses and €50 for each change saved for smaller ones. These changes can include the addition or deletion of new employees, alteration of access privileges (such as when a probationary employee becomes a permanent one), or other modifications such as a changed voicemail greeting, call forwarding,



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automatic call notification, the addition or revision of other contact phone numbers and email addresses for employees.

IP simplifies this situation and reduces the costs of MACs in both fixed and wireless networks by locating user devices by their IP address automatically, and re-allocating their security and permissions to their new location.

MAC costs are more generally associated with fixed infrastructure UC deployments since mobile users are, by definition, mobile. However, it should be kept in mind that for mobile users some of the costs still exist since the need to manage authentication from a central server, utilise single-sign-in, or improve security by enforcing a password expiration policy still exist.

What does UC need from the infrastructure?

The enterprise unified communications infrastructure is composed of server-based products and software that provide a central platform for communications, the distribution hardware (including routers or switches), and the endpoints which provide user access to voice, data or video that connect to this infrastructure. These elements are needed whether the medium is wireless or connected.

UC places strict requirements on IP packet loss, packet delay, and delay variation (or jitter). Therefore, you need to enable QoS mechanisms on switches and routers throughout the network. For the same reasons, redundant devices and network links that provide quick convergence after network failures or topology changes are also important to ensure a highly available infrastructure.

Design of the infrastructure requires building a robust and redundant network. This does not just apply to the fixed infrastructure; WLAN infrastructure design also requires understanding and deploying QoS to ensure end-to-end voice quality across the entire network.

Security is a critical consideration since the impact of any data breach is bigger in a unified comms world, and with your workforce on the move and connecting remotely, you need to know that your organisation and its proprietary information remain protected.

Whether the network is wireless or fixed, the demand on the network infrastructure to meet the challenges of security, availability and QoS are the same. The main difference for the network designer between a wireless and a connected infrastructure is bandwidth, and more specifically ensuring availability of quality bandwidth for all users irrespective of location.

Fixed infrastructure bandwidth

With hardwired cabling infrastructure, the physical layer is expensive and limiting in its physical location. But it is also predictable and consistent, and the bandwidth costs are lower than for the equivalent mobile bandwidth.

Although replacing cabling is expensive, potentially disruptive and should be avoided for as long as possible, the speeds supported by it has increased incrementally over the last 15 years with changing standards to meet the demands for ever higher speed. With hardwired cabling you can ensure that your network will handle both the bandwidth needed and the power requirements of a UC infrastructure.



A collaborative working environment creates a new class of 'e-professionals' who can work together irrespective of their geographical locations.

Using a homogeneous cable plant means that cabling can be installed more quickly and uses the same termination hardware throughout. This makes every cable usable for all purposes – important if one of your cost-saving arguments for UC is the reduction in costs of MACs. In a good design, all connections use the same patch cord types and this removes the risk of poor performance from mistakenly using a low-grade patch for a high-performance connection.

Adding most or all of your devices on IP with PoE is a smart way of keeping your fit-out budget down by reducing the required amount of structured cabling.

Even with the compression capabilities available today, good quality voice and video are highly dependent on having bandwidth available and a fixed infrastructure will ensure you have the bandwidth you need.

Mobile bandwidth

Let's look first at local Wi-Fi as an alternative to fixed infrastructure. A WLAN or Wi-Fi system needs to be capable of delivering high-quality voice, multimedia and business applications, while meeting stringent security requirements and

delivering seamless mobility functionality, easily and cost-effectively. It must also be quick to install and simple to operate.

The argument for Wi-Fi compared to making an investment in wired technology is that wireless will deliver everything you need for less money, with increased flexibility and as good or even better security than legacy wired systems. But this argument works for small Wi-Fi hotspots and not so well for enterprise-wide deployments.

The average cost to purchase and install a professional Wi-Fi network varies between £1,500 and £3,000 per access point. Given an AP's limited Wi-Fi coverage radius of 30 to 60 metres, many of them are required to extend coverage. And each AP must be connected to the network backbone to provide complete coverage. Furthermore, people and objects constantly move around, creating obstacles and reflection points for Wi-Fi radio signals. True mobility changes planned coverage patterns which can create poor QoS.

Mobile data doesn't scale like fixed connections, and designing a local Wi-Fi network to handle fluctuating levels of usage in an area such as a call centre

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or a busy sales office with hot-desking workers means providing sufficient bandwidth for worst-case situations. All of this therefore creates a very expensive and oversized Wi-Fi network.

The design of Wi-Fi hotspots only works because of the assumption of users moving in and out of the area. In an office where good quality network performance is needed for focused groups of relatively static users, the costs are unrealistic for the business.

As an example, take a requirement to provide sufficient capacity to support 100 users in a given area. There are a number of trade-offs that can be considered here. If all the users are assumed to be active at the same time, and if each user is allocated 1Mbps of bandwidth, then the network is going to have to support 100Mbps. If each user is allocated 256Kbps (similar to a consumer DSL line) then the overall network needs to only support an aggregate of 25Mbps. If it's assumed that only 10 users are active at any given time, then the aggregate requirement drops to 2.5Mbps – a reasonable requirement in a Wi-Fi network.

It can quickly be seen that Wi-Fi will work for a limited number of mobile users in a defined area, but prove costly for an intensely active work area such as a call centre or sales office.

The second mobile network is of course the operator's wireless network. Even if you're not a big video user, the normal sorts of messaging and web traffic created by a PC can quickly overload a wireless network. A typical PC has a more or less continuous connection to the web, so instant messages and web app updates can ping back and forth constantly.

But to conserve battery life and stretch network resources, a smartphone doesn't talk to the network continuously; it basically says 'hello' to the network, sends a message or a bit of data, and then says 'goodbye'. Each little message and each app ping creates its own set of hellos and goodbyes. Send too many and they can overwhelm an operator's servers. Web apps send too many.

More significantly, the overall bandwidth available to operators is not sufficient to support a wireless world. Single mode fibre has a bandwidth of as much as 100,000GHz or 100 terahertz, whereas the total available spectrum for mobile communications provides bandwidth of no more than 3GHz. If data traffic continues to grow at its current pace, we're headed for a situation in which the cellular networks will be overloaded and prices will rise.

The mobile operators' networks are useful tools for business users and an easy low-cost solution for start-up operations, but shouldn't be relied on for a business communications infrastructure in a large business.

Horses for courses

Mobility and unified communications are natural bedfellows. With UC and collaboration in place, enterprise mobility accelerates faster, and organisations experience easier deployments of devices and enterprise apps, improved collaboration between employees and partners, enhanced customer engagement, quicker decision-making, and substantial productivity gains across the business.

There may be many routes to achieve UC but the journey always begins with fixed line telephony because while much growth and innovation is taking place in the mobile space, fixed line remains ubiquitous and still accounts for a substantial proportion of enterprise telecoms expenditure.

The robust and reliable infrastructure provided by fixed line telephony combined with the bandwidth issues associated with mobile means that for large businesses fixed line infrastructure is not going to be redundant in a UC environment in the foreseeable future.

To handle the bandwidth demanded by today's UC applications, the capacity of the fixed infrastructure is going to be required. But there will be areas in buildings – particularly for the last 30 metres of connectivity – where users in the UC environment can be most effectively served by Wi-Fi or DECT networks to accommodate mobile users, for example in visitor areas and lobbies.

There will also be areas where both fixed and wireless connections are needed, such as in the conference room with a fixed line conference video phone

and a wireless service for personal calls. To reduce the cost of deploying in areas where only a limited amount of connectivity is needed, Wi-Fi will be the best choice, for example in loading bays or reception zones.

Equally, there will be areas of high bandwidth usage such as call centres and sales offices where fixed line UC connections will continue to be the best option for call and video quality, and for the comfort of using a fixed phone with ergonomically designed handsets.

The ultimate aim of UC is to rationalise devices and channels so that users are able to communicate instantly using whatever method is most appropriate at that point in time. That might be a fixed phone, smartphone, PC or tablet, and it could be communications via SMS, instant message, voice, video or email. ■



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Getting wired has never been easier thanks to some of these latest cables and cabling accessories for enterprise networks.

Designed for use in harsh and/or extreme environments, **Belden** says its "exceptionally robust" *DataTuff* industrial Ethernet cable range is able to guarantee the highest levels of reliability, quality and performance.

The portfolio covers all areas of the industrial environment, from the cabinet and the telecoms room to the factory floor and the actual machine. Specifiers can choose from products suitable for indoor and outdoor applications, for use underground, and for other harsh conditions.

Belden says the cabling meets all data rate requirements including 100Mbps, 1Gbps and 10Gbps. Options include Cat 7 and Cat 5e, with PVC, FRNC, TPE and PUR jackets, shielded or unshielded, twisted pair and bonded pair. Cordsets are available with RJ45 and M12 connectors, and IP20, IP67 and IP68 protection.

Other choices include solid conductor, cabinet-style cabling, and highly flexible trailing versions with resistance for more than two million cycles, or torsion cables that withstand up to 10 million cycles.

The firm adds that a key feature of the *DataTuff* range is its patented *Bonded-Pair* technology for specific applications where the cable is pulled, twisted and stepped on during and after installation. Thanks to its unique construction, Belden says the technology keeps a continuously uniform centricity, i.e. conductor-to-conductor spacing, offering "excellent and consistently reliable" electrical performance.



Datwyler has released two new distribution panels aimed at convenient, effective and secure patch cable handling in LAN and data centre copper cabling systems.

The two new products include the *KS 24x-a* angled patch panel and a second system comprising the *KS 24x-s* distribution panel and angled RJ45 *KS-TA* keystone

modules. According to the company, they offer users many advantages over standard 24-port patch panels. The *KS 24x-a* 19-inch/1U patch panel is said to be a convenient space-saving alternative to standard panels. Datwyler says its angled design removes the need for management panels or brackets, and prevents tight bending radii and kinking damage.

Other advantages include short distances from the ports to the vertical cable ducts in the rack and convenient patch cable handling. Up to 24 modules with a keystone fitting can be quickly and easily latched into the *KS 24x-a* without tools, according to the firm.

The *KS 24x-s* (split) distribution panel features 2 x 12 ports and Datwyler's

new *KS-TA* keystone modules. The company says using the 19-inch/1U patch panel in combination with the shielded 45° angled RJ45 modules means patch connections can also be made diagonally from left and right, and management panels can be dispensed with. It adds that thanks to its flat design, the *KS 24x-s* takes up less depth in the data cabinet.



HellermannTyton describes its new *GST* as a "compact, high performance" UTP RJ45 connector. The jack is part of the company's latest Cat 6A UTP solution which is said to offer a full end-to-end system. It comprises a range of modular flat and angled panels, and a full set of plastic mounting modules. When combined with its cables and patch cords, Hellermann Tyton claims the *GST* delivers "superior" Cat 6A performance.

The Cat 6A connector features a performance-optimised PCB and contact set which, according to the company, provides the necessary inherent performance to deliver a component compliant solution to ANSI/TIA-568-C.2-2009.

It has standard keystone mounting dimensions and can therefore be loaded into any standard faceplate. Hellermann Tyton says this means the jack can be used in faceplates suited to local requirements.

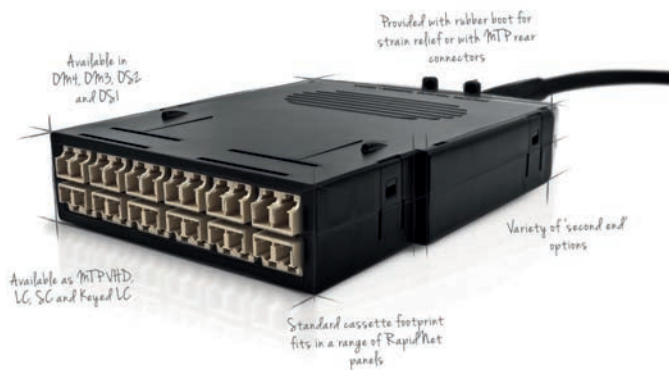
The *GST* uses a wire-manifold with an integral lid which manages the twisted pairs and provides strain relief for the

cable. This manifold requires the use of the specially designed single action crop and crimp tool making it quicker, easier and safer than traditional termination methods, according to the firm.

Connectors are available in 12 colour options to enable identification and demarcation of different services such as voice, data, CCTV, etc. They can also be used to define different paths or levels within the network.



Designed for Data Centres



RapidNet Pre-terminated Fibre from HellermannTyton

The extensive *RapidNet* fibre range from HellermannTyton has developed with the increasing demands of high performance, high speed networks and data centres. Available in OM4, OM3, OS2 and OS1, *RapidNet* fibre provides a number of connectivity options, including MTP, LC and SC cassettes.

RapidNet is HellermannTyton's fully patented pre-terminated, pre-tested modular cabling system, eliminating the need for on-site terminations and reducing installation times significantly. All terminations are housed in the *RapidNet* cassette, ensuring complete protection and strain relief of the cables.

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Trans Data Elektronik (TDE) has added the *tML-Xtended* module to its *tML* modular link cable system.

According to the company, which claims to be a pioneer in the field of multi-mode fibre optic technology, its patented system is equipped with a new fibre optic module that ensures extremely easy and fast migration to 40GbE and 100GbE.

TDE says the *tML-X* enables technicians to work with identical components and patch cables on both sides, and negates concerns about polarity.

Based on the *tML-HD* module, the *tML-X* has 12x LC duplex connectors at the front and 2 x MPO/MTP connectors with 12 fibres each at the back. The 12 x LC duplex connectors are arranged in two mirrored rows with 6 x LC duplex connectors each. The

polarity in both the *tML* fibre optic cables and the module corresponds to method B according to EIA/TIA 568.C.

TDE says that up until now users had to work with conventional module polarity methods, A, B and C, with different modules or patch cables. It says in practice, this resulted in "extremely complicated" handling and was prone to errors. The *tML-X* therefore features equal polarity of the modules and patch cables on both sides – even after the migration to 40 or 100 GbE.

TDE has achieved this by installing the module turned 180° on one side and by swapping both MPO connectors at the back. The firm explains that since one fibre each has to run from the sender to the receiver of the transceivers, a crossing of the fibres is always achieved in the fibre optic link.



Tripp Lite has introduced a premium series of LC fibre cables for high-density data centre applications.

The new *N820-T Premium Series* LC 10GbE cables feature convenient push-pull tab connectors that allow them to be installed or removed with one hand and without the need for tools.

Tripp Lite says space-saving features such as a slim uniboot design and shorter connectors, together with "superior construction and components" (such as ceramic ferrules) make these cables ideal for LANs, SANs (fibre channel), high-

speed parallel interconnects for head-ends, telecoms rooms and data centres.

Other features include backward compatibility with existing 50/125 fibre, sturdy plastic housing for long-lasting durability, a maximum 10Gb distance of 300 metres @850nm, and a LSZH (low smoke, zero halogen) aqua jacket.

Tripp Lite offers a number of cables in its range and recently added to it with several new versions. They include: 40GbE MTP/MPO 12-Fibre; 100GbE MTP/MPO 24-Fibre; and 40GbE MTP/MPO Fan-Out cables.



Learning app uses AI to adapt to each student

CompTIA has developed an e-learning platform that is claimed to use artificial intelligence to adapt to each student. The IT industry association, which specialises in vendor-neutral skills certifications for the global IT workforce, says *CertMaster* will enable people to train as network technicians using smartphones and tablets.

CertMaster features a learning algorithm that is designed to monitor every student's memory capacity, confidence and aptitude, and regulates dopamine levels in real-time. CompTIA says the technology could help students learn how to build, manage and troubleshoot networks up to 75 per cent

faster than traditional courses. It says in early trials, the platform helped students achieve 80 per cent knowledge retention.

"The pioneering platform combines key principles of brain science, neurobiology, cognitive psychology and game study to help learners master – not just memorise – the information they need to know," says the association.

It adds the platform could help address the global IT skills gap by enabling industry bodies, schools, IT departments, and government agencies to train a new workforce of networking technicians remotely through fast-track e-courses.

According to CompTIA, one of the biggest challenges with e-learning is that without the constructs of a classroom and a teacher, students can get discouraged or distracted and abandon the class. It reckons with *CertMaster*, about 95 per cent of learners who enter a course follow through to mastery of the subject matter.

The platform is accessible from a variety of mobile devices via an app for the *iPhone* or *Android* smartphones. It can be used with the new *CompTIA Network+* online course that has been developed to cover the latest innovations, from SDN to virtual network segmentation and digital forensics techniques.

Telecoms remains a leading sector for new jobs

Seventy-two per cent of telecoms firms plan to create new roles during this year, according to the latest research from Barclays.

For its Employers' Survey 2015, Barclays questioned 666 UK businesses, including 31 firms from the telecoms industry.

Although it revealed a slight dip in hiring compared to last year when 77 per cent of telecoms companies said they would



Andrew Skinner from Barclays' technology team says it is "heartening" to see telecoms firms planning to create new roles and increase wages.

be generating new roles, Barclays says the industry remains one of the leading sectors for job creation, second only to facilities management. The national cross-sector average is 50 per cent.

None of the telecoms firms surveyed said they would reduce headcount this year, and 62 per cent aim to increase staff wages.

Of those telecoms firms that are hiring, the study found that there are opportunities for new staff at every level: 26 per cent plan to create senior management positions, up from 47 per cent last year; 89 per cent will create jobs in middle/junior management or skilled positions (2014: 96 per cent); and 54 per cent are likely to create jobs at entry level (2014: 60 per cent). Forty-two per cent will also be taking on apprentices this year, a jump up from last year's 32 per cent (also see *BT to create 1,000 UK jobs, Mar 2015*).

"Against a positive backdrop of continued falling unemployment and wage growth outstripping inflation in recent months, it's heartening to see that a significant number of telecoms firms are planning to create new roles and increase wages for their staff," says Andrew Skinner, relationship director with Barclays' technology, media and telecoms team. "The up-tick in intention to hire apprentices is also great to see. Apprenticeships are extremely important in nurturing and developing the next generation of leaders and can also bring significant commercial benefits."

NEW COURSES

Data Centre Design Awareness – DCPProfessional

This three-day, classroom-based course in London is aimed at anyone involved in the operation of an existing data centre, or in the development of a new project.

It is Level 1 of DCP's *Data Centre Specialist* programme and aims to introduce students to the main disciplines and best practices associated with a data centre. Course material focuses on the key skills needed to understand the design concepts applicable and their interdependencies.

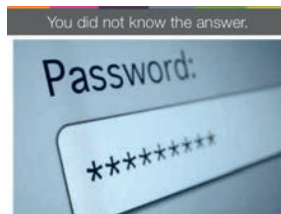
To ensure a satisfactory learning outcome, DCP recommends delegates have at least a 2-3 year applicable degree-level qualification, or 1-2 years verifiable experience in a data centre/computer room environment. info@dc-professional.com

Samsung WLAN training – Nimans

Nimans has launched a series of Samsung WLAN training programmes to help resellers. The first course took place earlier this year at the company's Manchester headquarters where, as part of a comprehensive overview, engineers learned about site surveys, protocols, system troubleshooting and software.

As the only voice and data distributor in the market to offer Samsung's WLAN system, Nimans says it can deliver "comprehensive" reseller support from start to finish. It has also produced a WLAN guide to help resellers identify and grasp new market opportunities.

The next events are due to place on 9 June at Old Trafford in Manchester, 17 June at the New Lanark Mill Hotel in Lanark, and on 23 June at Samsung's UK HQ in Chertsey, Surrey. www.nimans.net



A user tells you, "I've forgotten my BIOS password." What are two methods to recover it?

Correct Answer:
Using the reset jumper on the motherboard or removing the CMOS battery

CompTIA says *CertMaster* combines principles of neurobiology, cognitive psychology and game study to help students master information.

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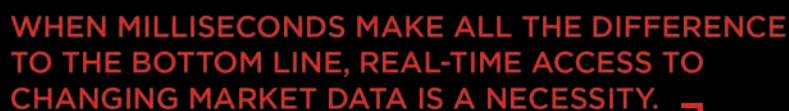
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