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JANUARY 2018

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FIXED & WIRELESS NETWORKS FOR ENTERPRISE USERS

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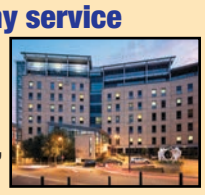

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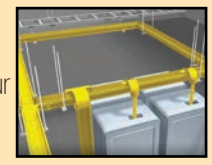


Ofcom to go ahead with sale of spectrum despite legal challenge

Ofcom has announced plans to go ahead with auctioning spectrum in the 2.3GHz and 3.4GHz bands despite pending legal action by Three UK.

While the 2.3GHz frequencies can be deployed immediately (after they have been awarded to operators) to improve mobile services for customers, 3.4GHz spectrum can be used for future 5G networks.

Ofcom had planned to hold the auction in autumn 2017 but was delayed by litigation brought by Three and BT/EE.

Earlier last year in July, the regulator said it was going to impose caps on the amount of new spectrum that any single operator could acquire. It proposed a cap of 255MHz on the amount of mobile spectrum that was immediately usable after the auction, and then a total cap of 340MHz per operator on overall mobile spectrum following the sale. This latter cap will mean no company can possess more than 37 per cent of all mobile spectrum.

The operator that will be most affected by this is BT/EE which already holds about 42 per cent of all available spectrum. It argued that the cap limits the extent to which it can expand in the future by seeking to acquire extra frequencies. At the same time, it said rivals will have the chance to win a greater share of the airwaves.

However, Three believes the auction rules are too generous to BT/EE. In its submission to Ofcom during the consultation stage, it argued that BT/EE should not be allowed to hold more than 30 per cent of the total spectrum. While Three was prepared to accept the ultimate figure of 37 per cent, it claimed that the regulator gave BT/EE "considerable leeway and tolerance" to possess more than 37 per cent of the spectrum before it finally had to succumb to the cap.

(continued on page 2)

The operator that will be the most affected by Ofcom's proposed spectrum caps is BT/EE which already holds about 42 per cent of all available cellular frequencies.
PHOTO: EE

NHS uses data analytics for "sickness surveillance system"

The NHS has implemented a "sickness surveillance system" to help plan for surges in demand over the winter.

Data gathered by Public Health England (PHE) are being used by NHS England's operational monitoring teams to study winter trends, and to help give early warnings about rising outbreaks of flu, respiratory syncytial virus, norovirus, as well as other acute seasonal illnesses.

PHE first gathered these data in 2012 to try and predict illnesses that could have impacted the Olympic Games.

Since then, the organisation has gradually increased its scope and content and says it now carries out a comprehensive daily data collection across GP practices, the 111 service, out of hours practices, and A&E departments. Regional winter operations teams are feeding this information back into NHS England's system to help manage pressures and anticipate surges.

Keith Willett, NHS England's medical director for acute care, says: "The breadth and variety of surveillance data from PHE gives us vital time to put escalation plans in place to free up beds and reconfigure wards. We can plan how to best provide care to a higher number of patients with a specific illness, and to corral patients who are suffering the same illnesses. It also means we can better predict when things will return to normal and plan accordingly."

The data are being used alongside other information to anticipate demand for the week or so ahead.

PHE medical director Paul Cosford points out that even at relatively moderate temperatures, there is almost a four per cent rise in deaths and nearly a one per cent increase in emergency admissions for every one degree drop in temperature.

"A combination of Met Office weather alerts and the PHE surveillance data, which includes syndromic data, offers the NHS vital tools for approaching seasonal demand for health care," he says.

(continued on page 2)

Spectrum sale

(continued from page 1)

Following an expedited court process recognising the strong public interest in proceeding with the auction, the High Court upheld Ofcom's decision and dismissed both claims on 20 December 2017. BT/EE is reportedly no longer pursuing its case, but Three has now applied to the Court of Appeal which has expedited matters and will hear the case on 13 and 14 February 2018.

In a press statement released on 17 January, Ofcom said: "The litigation by Three is continuing to delay access to the spectrum and the benefits to consumers and businesses that can flow from it. We are keen to ensure that we can move as quickly as possible to hold the auction once the judgment of the Court of Appeal has been given."

As a result, the regulator has decided to go ahead with the auction. It now plans to publish the regulations and guidance for potential bidders on how to take part in the sale on 31 January.

But the formal process of qualifying bidders won't begin until after the Court of Appeal's decision is announced, and all parties know whether Ofcom's decision to impose an overall spectrum cap at 340MHz is upheld. ■

NHS "sickness surveillance"

(continued from page 1)

According to the NHS, there are around three visits to A&E departments for one emergency hospital admission during winter. It says the findings of its data will enable it to anticipate rises in hospital admissions and produce a planned response. This could include, for example, rescheduling planned surgery in advance to avoid inconveniencing patients, as well as freeing-up beds and converting wards from elective to emergency care for patients with conditions such as respiratory problems.

It adds that planning also allows hospitals to isolate infectious patients rather than unintentionally spreading them around multiple wards, something that is particularly important with the norovirus which causes outbreaks of diarrhoea and ward closures.

Commenting on the move, IT services provider Insight UK says the new NHS "sickness surveillance system" and the use of data analytics represent a positive step towards a better-informed health service. Darren Hedley, the company's head of public sector, says: "Data holds incredible promise for the healthcare sector – whether it is to better provision healthcare services as in this case, improve the accuracy of diagnoses, or indeed the accuracy of recommended treatments."

Hedley continues by saying that combining data analytics with key technologies – such as cloud, IoT, AI, etc. – is crucial for all organisations, particularly those such as the NHS.

"With often limited resources and incredible pressure on budgetary decisions, it is vital that holistic IT strategies are developed that incorporate these technologies not in isolation but together. This will be the best way to ensure technologies are properly exploited and patient-centric goals are met. After all, failing to do so will stunt the NHS' ability to deliver the best possible outcomes to the people it serves." ■

Outsourcing in Europe sees uplift

The EMEA sourcing market rebounded in the final quarter of 2017, with double-digit growth in both traditional and as-a-service contracting values over the previous quarter, according to Information Services Group (ISG).

The technology research and advisory firm compiles a regular index measuring commercial outsourcing contracts with annual contract value (ACV) of €4m. Its index for Q4 2017 reveals the EMEA market, which fell sharply in Q3 after starting the year strongly, was up 27 per cent sequentially.

For the full year, EMEA generated €12.2bn in ACV, up three per cent against 2016. Traditional sourcing ACV of €8.3bn was down eight per cent, but as-a-service sourcing increased 41 per cent to €3.9bn.

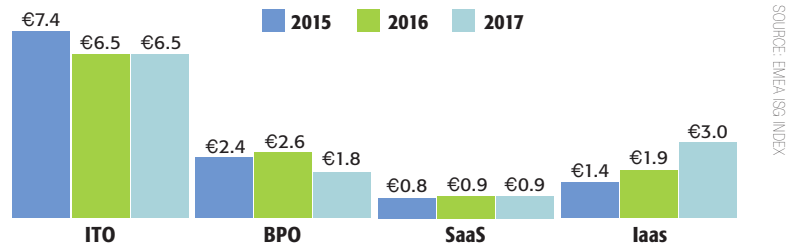
ISG says this rise was driven by demand for IaaS. While SaaS ACV of €900m was flat for the year, IaaS ACV soared 58 per cent versus the prior year, reaching €3bn.

The firm says despite uncertainty around Brexit, the UK saw sourcing activity and ACV grow in 2017. This follows the broader trend of organisations entering into higher numbers of smaller-value contracts as they look to take a more "agile" approach to sourcing.

ISG adds that the 206 contracts and €3.2bn in ACV were both up 18 per cent year on year, albeit on a softer scale compared with 2016 which it describes as the UK's "weakest" year in a decade.

All EMEA industry sectors showed growth in as-a-service ACV in 2017, with financial services dominating. Here, it hit €700m, a year-on-year increase of 40 per cent. The business services sector also recorded ACV of €700m and a 40 per cent increase compared with the prior year.

While the manufacturing sector saw a 50 per cent increase in as-a-service values, it was pulled down by a steep decline in traditional sourcing and fell overall by 21 per cent in 2017. ISG adds that recent trends indicate significant spending on supply chain optimisation in manufacturing. It believes connected devices supported by edge computing, IoT, and data analytics will increasingly become a major focus in the sector. ■



SOURCE: EMEA ISG INDEX

Annual contract values of outsourcing deals (€billions) by type in EMEA for 2017. ITO outsourcing still dominates but IaaS is growing as is SaaS while business process outsourcing is starting to decline.

First phase of Renfrewshire public Wi-Fi project is now complete

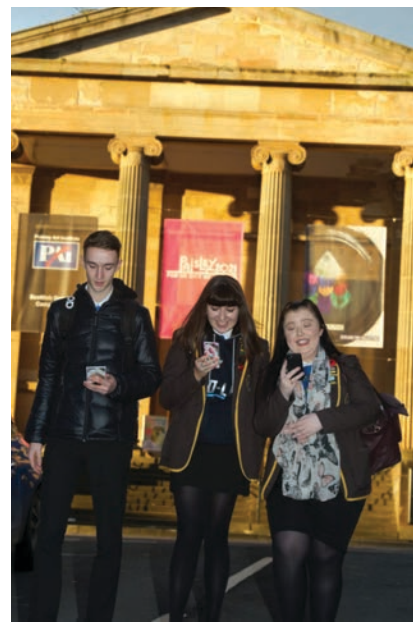
Boston Networks has announced that it has completed the first phase of a £1m project to deliver public Wi-Fi connectivity for Renfrewshire Council and its partners.

The firm began the implementation last year. The initial phase of the four-year framework encompassed the design and delivery of resilient Wi-Fi connectivity to 25 public and community buildings throughout Paisley, Johnstone and Renfrew.

The Lagoon Leisure Centre, Paisley Museum and Town Hall and In Cube stores are among the first places to benefit from what Boston describes as a "reliable and secure" Wi-Fi service that offers "unlimited high performance". It adds that users can access services quickly with no need to register.

During the next phase of the project, high-speed Wi-Fi will be rolled out throughout Johnstone town centre where, from December, visitors, residents and workers will benefit from free wireless connectivity. Boston Networks chief executive Scott McEwan says: "By working closely with Renfrewshire Council, we're now on track to deliver the next project milestone, which will see public Wi-Fi rolled out to offer free internet access in [the town], ahead of schedule."

Eduroam will also be introduced during the next phase of the Wi-Fi expansion. This will enable students to connect to the worldwide education roaming service and access educational resources stored securely on internal networks. Boston claims the rollout will see Paisley become one of the first UK towns to provide the service when it's launched later this year. ■



The next stage of the deployment will enable students to connect to the Eduroam network for free via public Wi-Fi hotspots.

Samsung unveils its first UK connected stadium

Giant connected LEDs measuring a total of 120m² are being installed at The Ageas Bowl in Southampton.

The home of Hampshire Cricket, the Ageas Bowl in Southampton, is planning to become a fully connected stadium.

Giant Samsung LED screens and what's described as "leading-edge" Wi-Fi technology are to be installed by the end of April and ready for the new cricket season.

The Ageas Bowl is working with Evolve AV, part of the Hampshire-based Onecom group of companies, in a deal that will see the venue become a showcase for Samsung's technology.

The stadium will see the installation of two new full HD 1080p resolution screens. Measuring a total of 120m², its claimed these giant screens will give fans an "excellent" viewing experience from any seat within the venue as well as providing a new and improved integrated scoreboard system.

The connected screens are said to be the first of their kind to be sold in the UK. As well as offering secure, high-speed wireless networking, they will enable real-time fan engagement, competitions and sponsorship opportunities, as well as replays and stadium information.

More than 200 wireless access points have been strategically placed across The Ageas Bowl to deliver the new and improved internet connectivity capacity. A spokesperson for Evolve AV said that details and specifications were in development at the time of writing and was unable to provide any further technical information. ■

THE WORLD ACCORDING TO...

Professor Mark Jolly, head of sustainable manufacturing, Cranfield University

Time to refresh your approach to the PC refresh cycle?

The average PC is a lavish and exotic piece of work: copper from Chile, gold from Mali, iron ore from Brazil, nickel from the Congo, bauxite from Peru. Many components depend on rare earth or platinum group metals highlighted as under threat in the EU's Critical Raw Materials, the fragile supplies of which are described as Europe's 'Achilles heel'.

And yet, these treasures are thrown out as part of the standard 'refresh' of IT estate. The typical lifecycle of 3-4 years – when the cost of maintenance is believed to be greater than the cost of replacement – has recently shifted to be closer to 4-5 years. But there were still 260 million new PCs purchased last year (according to IDC).

New work by Cranfield University research student Mauricio Alva Howes has provided evidence for a re-think. Organisations can save significant costs and demonstrate corporate social responsibility by looking at re-furbishing over replacement. In his study, Howes carried out a range of benchmarking tests comparing the performance of re-manufactured HP, Lenovo and Dell laptops – machines that have been cleaned and refurbished – against that of new models from the same brands.

Tests on the most typical uses of PCs in a work setting – email, word processing, and the use of spreadsheets, databases and video conferencing – showed overall that the re-manufactured computers performed at between 93 and 97 per cent of the level set by the new computer. There is a small fall-off in performance when it comes to graphic processing and, in some cases, with battery life, but in terms of everyday use by employees, the differences are minimal.

Thus, new and updated models don't deliver value.

The re-manufactured laptops used in the research came from IT re-use and recycling business A2C Services which recently launched its Circular Computers service. This enables large employers with huge IT estates to opt for a circular economy approach: they can send their used machines for refurbishing, and take on a supply of re-manufactured PCs rather than buying new hardware every three or four years.

IT workers subject to unwanted comments about their dress sense

IT workers are being put through "heightened" stress due to a lack of clarity around what they are expected to wear at work, according to new research.

In a survey of 500 employees in the IT sector, jobs board Totaljobs reveals that the average worker spends five months of their life thinking about what to wear to work. It also says those within the sector will spend an average of £54 per month on work clothes – that's equivalent to £648 a year.

The study found that 63 per cent find it difficult choosing what to wear for work, with 32 per cent saying that the lack of a dress code leads to stressful decisions. A quarter of workers said that they feel pressured to dress a certain way because of company culture, while a further 24 per cent said they are pressured by their managers.

The study also suggests that IT staff are having to put up with unwanted opinions and comments when deciding what to wear to work. Totaljobs says this appears to be a root cause of much of the stress. For example, a third of workers said they have been subject to unwanted comments about their appearance at work, 20 per cent of which have been from the opposite sex.

But overall, 13 per cent of those polled believe there is a lack of clarity in the workplace about a company dress code, and 12 per cent have absolutely no sense of what management wants them to wear.

"We hope that by revealing these findings, employers begin to understand how important it is to outline exactly what is expected in terms of the attire their employees wear to work," says Totaljobs HR director David Clift. "Ideally, this would contain specific guidance [to] help both male and female employees feel more comfortable in what they wear at work. We are keen that employers actively look at ways to develop a gender-neutral dress code." ■

Top five unsuitable items to wear at work
1. Shorts (49%)
2. Sandals (44%)
3. Hats/caps (42%)
4. Hoodies (41%)
5. Slogan tee-shirts (38%)

The research indicated that both men and women 'dress down' for work in the UK at their peril. A fifth (20 per cent) of workers have been told they look 'tired' when they have dressed casually, with a further 13 per cent saying they have been asked if they were ill.

SOURCE: WWW.TOTALJOBS.COM

Who is responsible for securing the Internet of Things?

Many companies believe IoT security is the responsibility of the consumer, finds new research carried out by Radware.

After surveying 605 IT executives from around the world for its *2017-2018 Global Application and Network Security* report, the firm found that when asked who needs to take responsibility for IoT security, there was no clear consensus. Executives pinned responsibility on the organisations managing the network or on device manufacturers, but the majority (56 per cent) said it was down to consumers using IoT connected products.

Andrew Foxcroft, regional director for Radware UK, Ireland and Nordics, says it's time companies closed the debate and assume responsibility themselves: "Everything that is attached to the network is a threat to security. The longer we debate who is responsible, the more advantage we hand to the hackers who will do everything that they can to exploit weaknesses.

"Governments of the world are taking more interest in IoT and if companies fail to be decisive, take responsibility and collaborate on security, legislation will make the decision for them – look at Germany's decision to ban smart toys."

Last November, Germany's telecoms regulator, the Bundesnetzagentur, banned domestic sales of children's smartwatches that have a listening function because of surveillance fears.

Radware's Andrew Foxcroft points out that everything attached to the network represents a security threat.

Foxcroft adds that it's "lazy" to assume consumers will think about security.

"We already know people find it challenging to keep up with software updates and are unlikely to think through the risks regardless of the terms and conditions they sign up to.

"The network is only as strong as its weakest link and the sooner companies realise IoT devices are the weakest link, and that the buck will always stop with them, the better." ■

The IoT Connection in transportation – p6

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Tel: +44 (0) 1932 886 537
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Annual subscription: £80 (UK); £95 (Europe), £100 (USA and the RoW) airmail. Cost per single copy is £8.25.

Printed in England by The Magazine Printing Company
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KADIUM

Provista UK acquired by US-based PCM

Networking and comms solutions specialist Provista UK has been bought by NASDAQ-listed Californian tech giant PCM for an undisclosed sum. PCM CEO Frank Khulusi hopes the acquisition will "strengthen" his firm's position as a value added solutions provider in the UK. Provista has its headquarters in Hamilton with satellite locations from Aberdeen to Birmingham. The joint business will allow Provista to expand operations into PCM headquarters in Sheffield along with offices in Northampton and Liverpool. No job losses are expected following the takeover, and the board will remain in place to oversee further recruitment throughout the UK, including more jobs in Scotland to support the expansion. ■

SolarWinds and Loggly merge

SolarWinds has completed its acquisition of Loggly, the log monitoring and analytics SaaS provider. Former Loggly CTO and VP of engineering Manoj Chaudhary, along with product VP Vito Salvaggio, will join SolarWinds as leaders in engineering and product, respectively. Members of the core development, operations, support, sales, and marketing teams will also transition as part of the deal. SolarWinds claims the acquisition will "deepen" its cloud-software engineering and analytics expertise. The firm adds that this latest deal is part of its vision of enabling a single view of infrastructure, applications, and digital experience management. ■

The Networking People approved for HSCN

Lancaster-based TNP (The Networking People) has become an approved supplier to the Health and Social Care Network (HSCN) which replaces N3. TNP solutions architect Ian Anderson says a key element within the HSCN strategy is reducing duplication and improving collaboration between health and social care organisations by enabling them to reuse and share existing network infrastructure and services. He claims: "That echoes TNP's own flexible and innovative approach to networks which enables public sector organisations to retain and adapt existing infrastructure where appropriate, while maximising network effectiveness." ■

Looker helps Deliveroo to gain deeper insights into its business

Deliveroo has selected Looker to analyse its data and manage its extensive international network to better serve partners and customers. It's claimed that the meal delivery company will now have a complete view of all marketing, sales, logistics, delivery and online data from its regional and international operations.

Deliveroo has a distributed network of partners and customers that includes more than 30,000 restaurants and 30,000 riders across 200 cities and towns in 12 countries.

Looker claims it offers a complete data platform that features data analytics and business insights to every department, and easily integrates into applications to deliver data directly into the decision-making process. According to the vendor, timeliness of meal delivery and quality of the customer experience is of utmost importance to Deliveroo. It says the firm needed to simplify the complexity of not only managing all its inbound data, but also understand it in order to make faster and more accurate decisions.

Previously, Deliveroo's teams were inundated with requests for data that created a bottleneck and slowed the time-to-decision. Looker says it changed all that by allowing Deliveroo to effectively leverage real-time insights with self-service tools that free the data teams to work on more valuable projects. It says Deliveroo can now automatically deliver data-rich reports to its partners and managers in multiple regions and time zones.

Deliveroo's network of partners and customers includes around 30,000 riders across 200 cities and towns in 12 countries.

Deliveroo CTO Mike Hudack adds: "Looker allows us to scale access to information easily and efficiently in a way that helps us bring data to every conversation we have internally and with our partners." ■

New tech could deliver data in a "blink of an eye"

New fibre optic switching technologies could potentially automate manual processes and reduce energy costs across telecoms, according to recent research.

To keep up with increased demands for fibre optic switching technology, a consortium of industrial, research and academic partners launched the SwIFT (optical Switch combining Integrated photonics and Fluidics Technologies) project. With an EU grant of €1.85m, their aim was to develop a low-cost solution for automatic and remote fibre management.

According to SwIFT, connector rich patch panels implemented in fibre networks require operators to manually configure connector plugs in the central office and field. By combining silicon photonics and microfluidics – a similar technology to what has been successfully implemented in e-readers – it claims operators could potentially use software to patch and re-patch cables.

SwIFT project coordinator Jan Watté says that after four years of research, the consortium has moved a step closer to a concept that has the potential to reduce operational expenses associated with installing, provisioning and maintaining the embedded fibre plant and optical connections.

"Dramatic energy savings, reduced floor occupation in the central office and redesigned closures could create a paradigm shift for network operators," he says. "The SwIFT concept findings lay the groundwork for further development of industry specifications – we see a huge opportunity for the telecommunications industry, especially for network and data centre operators."

Watté adds that the combination of microfluidics and silicon photonics could deliver information in a "blink of an eye".

The SwIFT project was part of the EU's 7th Framework Programme for ICT. This bundles research-related EU initiatives together under a common roof, and is said to play a crucial role in reaching the goals of growth, competitiveness and employment. ■

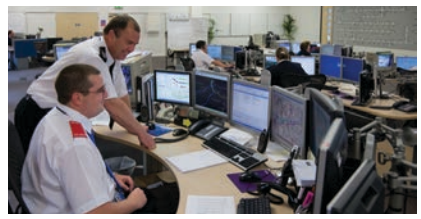
North Wales Police nab MPower for UPS maintenance

MPower has been appointed to manage UPS maintenance at North Wales Police and Fire Service.

The Hampshire-based company will now look after North Wales Police's headquarters in Colwyn Bay, district headquarters at Caernarfon and Wrexham, as well as the UPS at Rhyl Fire Station.

MPower says it will provide annual maintenance visits, round-the-clock emergency support 365 days per year, as well as remote UPS monitoring and monthly reports.

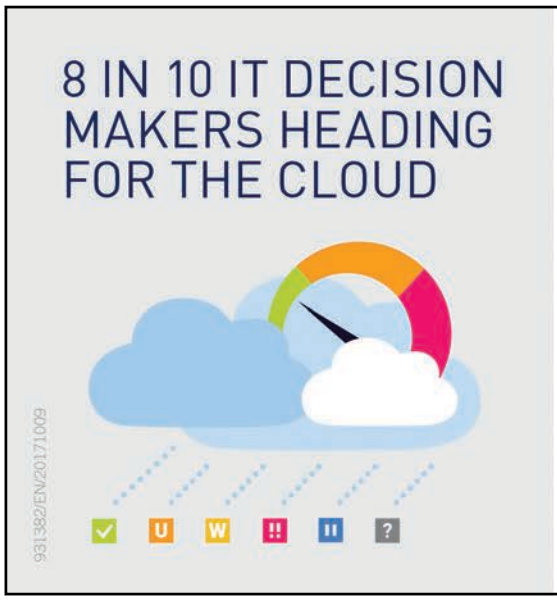
Company MD Michael Brooks adds: "We will look after 10 UPS, across the four sites, ranging from 10kVA to 100kVA which support critical IT equipment, computer systems within the custody suites and telephone systems. Remote monitoring will be important to pick up any anomalies and ensure alarms are dealt with quickly."



10 UPS devices support critical ICT equipment across various police and fire service sites.

Monthly analysis of UPS performance and trend data will also be provided. Brooks says this will help indicate any ongoing issues which need to be addressed relating to, for example, power cuts or the efficiency of air-conditioning, as well as any other challenges that could potentially impact power protection.

Founded in 2005, MPower UPS is now part of Swiss-based UPS manufacturer Centiel Group following its acquisition last year *(see News, Dec 2017 issue)*. Centiel claims its engineers were responsible for the design of the world's first three phase transformerless UPS, as well as the first three phase modular device. ■



Findings of a recent survey with more than 2,000 ITDMs show the most popular cloud services used are Web hosting, blog and content management (39 percent), email (32 percent) and file sharing (32 percent). ITDMs are planning to deploy more complex business applications in 2018. The most popular include network monitoring (35 percent), backup (34 percent), sales/CRM and ticketing systems (35 percent). Download the full report to learn more about cloud readiness: www.paessler.com/campaign/cloud-survey

To support the shift to cloud Paessler has released **PRTG Network Monitor as a service**.

Users get all the benefits of PRTG on premise, in the cloud, making it possible to start monitoring directly from a browser within a matter of minutes.

PRTG collects and displays status information from your IT infrastructure. It determines the availability and utilisation of devices, virtual environments, applications, and bandwidth. Test PRTG in the cloud now: www.paessler.com/prtg/sign-up

Read more about Paessler in the DCIM feature pp10-13

For more information on PRTG Network Monitor contact:

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Dynamic certificates aim to make cloud services more secure

Researchers have come up with a new way of allowing cloud service providers to be checked and certified reliably.

While quality certification issued by accredited bodies already exists to guarantee data security, the researchers say these certificates are often awarded following a one-off examination and provided for just one to three years.

"Certificates lose their relevance to the current situation much quicker than in one to three years and therefore also their security," says Professor Helmut Krcmar from the Technical University of Munich (TUM).

As part of the Next Generation Certification (NGCert) consortium, Krcmar and his team say they have now developed such a system for cloud services.

The project partners have created geolocation programs as part of the certificates. These constantly check the location of the cloud service provider's computers, and also test all the paths taken by data packages sent from a company to the provider. According to the researchers, these paths are as characteristic as fingerprints; if they change, it can indicate that the data processing is taking place in a different region, possibly using foreign computers.

Another criterion is checking the legal certainty of the cloud services. Laws on data protection and data security can change

Professor Helmut Krcmar says his team has developed a dynamic system which can constantly check validity of cloud service certification over a period of time.

frequently, such as the retention period for access data. A certificate issued as a one-off is unable to react to these changes within the legal framework, but Krcmar reckons that his team's concept of dynamic certificates can also solve this problem. "There are many individual software components which can change independently of one another and after a certificate is initially issued – these are referred to as 'modules'."

In order to curb the misuse of invalid or expired quality certificates, the team has also developed initial ideas for models involving checking systems that operate independently from the respective cloud service providers and can be offered as an autonomous, objective system.

In the future, the researchers are aiming to extend their results to include the consumer market in an effort to boost trust in cloud services and similar areas, such as e-commerce and location-based services. ■

THE IOT CONNECTION

News & developments from the world of the Internet of Things. This month, we look at the transport sector.

PwC to help UK firms take-off with drone data

The emerging global market for business services using drones is forecasted to be valued at more than $127bn.

PwC has established a team of specialists in the UK to help clients take advantage of emerging drone technology and extract value from the data it can provide.

In its *Clarity from Above* report, the consultancy firm says drones have the potential to disrupt a variety of industries, estimating the market for current business services and labour that could be done by drones at more than $127bn globally.

According to the firm, drones can help capture information from a new angle, gathering data quickly from hard to reach places with accuracy down to a few centimetres. It also reckons that they can make a "crucial" difference to clients in managing costs, controlling risks and improving safety.

PwC says its new team will focus on industries with the best prospects for drone applications, such as infrastructure, agriculture and transport. It will primarily assist clients with three areas: asset maintenance and monitoring; capital projects and construction monitoring; and strategic planning for deploying drone solutions across an organisation.

The team will combine expertise in cyber security and analytics with machine learning techniques to help businesses unlock the raw data collected by drones. These will then be integrated with existing management information systems to provide comprehensive insights.

"The majority of organisations are still using drone data at project stage, rather than embedding the technology into their strategy," says Elaine Whyte, PwC's UK drones leader. "We're already seeing early adopters in large-scale capital projects using drone data to enhance insight into their investments, allowing for better control of building sites and creating that definitive golden record of information."

The company adds that it is already undertaking client work with drones, largely led out of a Centre of Excellence team in Poland. There, PwC's Drone Powered Solutions team was formed more than four years ago to take advantage of the country's more expansive drone regulation.

R&S claims first with independently certified eCall test solution

Rohde & Schwarz (R&S) has announced that its eCall wireless communications test platform is the first to be certified by an independent test body.

From 1 April onward, car makers are required to equip new vehicles for sale in the EU with an eCall module. In the event of a serious accident, this automatically sends data to the universal European emergency phone number, 112, to facilitate faster response from medical, police and fire crews.

CETECOM has been officially designated as a technical service for eCall by the German Federal Motor Transport Authority. The independent consulting and testing firm has examined the implementation of the eCall test public safety answering point (PSAP) in R&S' *CMW-KA094* solution and certified it as compliant with the CEN EN 16454:2015 standard.

R&S says its compact system can be used for reproducible end-to-end functional tests and standard-compliant conformance tests of eCall and ERA-Glonass modules (the latter describes the accident emergency response system that uses Russia's version of GPS, the Global Navigation Satellite System) Car makers and suppliers use these tests to check whether the installed modem properly initiates an emergency call in the event of a motor vehicle accident, correctly acquires the relevant data and sends it via the mobile network, and is able to establish a voice connection to the PSAP.

R&S adds that it is also developing test features for eCall over LTE, and making the corresponding solution fit for testing new vehicle telematics units.

Premier Foods brings IT service management back in-house

One of the UK's biggest food companies has brought its IT service management (ITSM) function back in-house.

Premier Foods' brands include well-known names such as *Bird's*, *Cadbury*, *Mr. Kipling*, *Sharwood's*, amongst others. The company hopes to improve the delivery of IT services across the 15 sites it runs, and has completed the first phase of its in-house service centre implementation using *Freshservice*, a cloud-based management platform from Freshworks.

A service centre team of 57 agents will use *Freshservice* to support more than 2,000 end users through a self-service portal for IT requests. The platform will manage service requests, events and tickets, as well as provide a customer-facing catalogue to allow users to track their tickets. It also features API functionality. This allows Premier's team to integrate the platform with their existing monitoring tools and third-party systems, thus reducing the burden on IT staff significantly, according to Freshworks.

Simon Johnson, the vendor's UK country manager, says many companies are realising that ITSM is an essential function of their wider IT strategy and are bringing teams back in-house. He claims tools such as *Freshservice* enable companies to take control over their ITSM and service plans, while also providing "better experiences" for both end-users and service desk agents.

"Implementing automation and self-service strategies can provide employees with more tailored and efficient service, while having greater control over how these services are designed to meet the needs of the business is driving more companies to run their own service desks," says Johnson. ■

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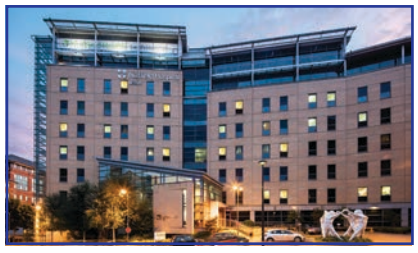
SD-WAN boosts network bandwidth for Nuffield Health

Nuffield Health says it has reduced WAN traffic by up to 75 per cent and seen up to a six-fold increase in bandwidth after deploying an SD-WAN.

The healthcare organisation has two data centres and around 20,000 users across more than 260 sites throughout the UK. These include 31 hospitals, 111 gyms, and 121 corporate fitness and well-being centres. But it was finding that its legacy MPLS WAN was struggling to connect users to business-critical SaaS applications such as *Office365* and *TrakCare* for electronic medical records, as well as IaaS applications such as *Microsoft Azure*.

"Whether it's accessing digital images on the operating table, or using the latest high-tech gym equipment, it was clear that our existing network infrastructure wasn't up to scratch," says Dan Morgan, IT operations director, Nuffield Health. "As such, we required a reliable WAN solution that would improve network performance and securely support our cloud-first IT strategy."



Following a review of its WAN usage, the company discovered that more than 60 per cent of its traffic was being backhauled through the two data centres to the internet. This was significantly impairing network and SaaS performance. Through its partner Ampito, Nuffield turned to Silver Peak to design a WAN edge architecture that would intelligently and securely route traffic over the internet based on application-driven policies without compromising performance.

Silver Peak says its *Unity EdgeConnect* SD-WAN platform was chosen for its ability to support "seamless" service chaining with zScaler and Palo Alto Networks firewalls for intelligent internet breakout. As a result of the deployment, it says Nuffield is now able to run dual internet links to its branches, with some sites able to run on LTE for connectivity until a fibre service is delivered.

In addition, the organisation has benefited from *Unity EdgeConnect*'s zero-touch provisioning which enabled a faster implementation. In fact, it's claimed Nuffield installed SD-WAN at 189 sites in just four months; Silver Peak says that on average, 15 sites per week were connected which peaked at 27 sites in one week.

Morgan says SD-WAN has given his team complete visibility and control of the network and enabled them to see how SaaS and IaaS are being used. "This level of cloud intelligence is critical to our organisation as we continue to embrace new healthcare technologies available in the market."

Trust recovers costs with security system transplant

East Sussex Healthcare NHS Trust (ESHNT) serves a community of around 525,000 people, employs more than 6,000 staff, and has an annual turnover of £365m.

In common with many healthcare providers, it has seen increasing use of software-based administrative and clinical systems. These have increased the demand for more flexible and secure access technologies that improve productivity while protecting sensitive medical data. Furthermore, with a growing number of devices and requirements for greater remote connectivity, many NHS trusts are looking at ways to streamline secure access while making cost and efficiency savings.

ESHNT's legacy secure access solution used physical tokens along with an incumbent managed service provider. But the use of two factor authentication tokens was both expensive in terms of hardware and licensing costs as well as more complex to manage when dealing with on-boarding new staff and updating settings in the event of tokens being damaged, lost or stolen.

Following an assessment, the trust realised that an upgrade would allow it to make considerable savings in ongoing charges. Additionally, self-service tools for user on-boarding and maintenance would provide further savings in terms of management time without compromising security.

The IT department began evaluating a number of options and approached Pulse Secure, the vendor of its preferred VPN solution. It recommended a number of partners with suitable skills and experience including ANSecurity which was eventually chosen to develop the new secure access solution.

The project included upgrading ESHNT's VPN infrastructure to Pulse Secure's *Connect Secure 5000* series appliances. These are run in an active/active high availability implementation to cope with a larger number of users accessing services via a wider range of devices.

The upgrade also included several secure self-service tools to simplify access for guests along with easier moves, adds and changes for existing users. The new solution uses active scanning prior to connection to the network to ensure that devices have the correct updates and patches before they are given access to sensitive applications.

In terms of upgrading its two factor authentication system, ESHNT selected a solution from Swivel based on a balance between flexibility and cost. It includes options to use a smartphone based app to reduce overheads associated with handling physical two factor authentication tokens.

Fast website vital in the fight against meningitis

The Meningitis Research Foundation brings together people and expertise to defeat meningitis and septicaemia wherever it exists. Since the charity began in 1989, it has funded vital research into the prevention, diagnosis and treatment of meningitis, and also raises awareness of the disease and supports individuals and families affected.

Due to the fast-acting nature of meningitis and septicaemia, the public need to be able to access information quickly and at all times. The foundation's website is therefore key – given the severity of meningitis and the importance of early diagnosis, its performance is vital and instant access is a top priority.

However, the online platform was not optimised for mobile which accounts for 60 to 70 per cent of user traffic, making information and advice difficult to view. Furthermore, the look and design of the site was constrained by technical issues that meant graphics were taking too long to load, leading to poor response times

On top of all this, there are times when the site experiences peaks in traffic due to awareness campaigns or news reports about the disease. The foundation therefore needed increased IT power and capacity to handle these surges.

After a recommendation from its design agency partner Delete, the charity looked to Hyve Managed Hosting to provide the infrastructure, performance and security it needed.

Brighton-based Hyve specialises in fully managed IT services. The firm claims its web hosting services provide reliable, secure and high-speed infrastructure underpinned by the use of SSD drives and a 'no single point of failure' architecture design. The company adds that its "instantly adaptable" cloud resources mean that organisations can scale in conjunction with increases to website traffic, and that its "strong" investment in hardware means it offers a 99.99999 per cent uptime guarantee.

The Meningitis Research Foundation is now able to take advantage of a faster and more efficient website that provides greater response times than ever before. Hyve says that on average, the site is now experiencing load times of 684ms which is below the median of other sites at 749ms. As a result, visitors can access the online information they need without any difficulty.

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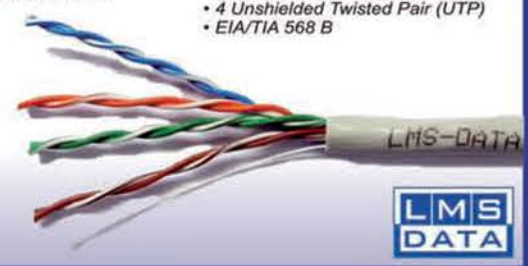

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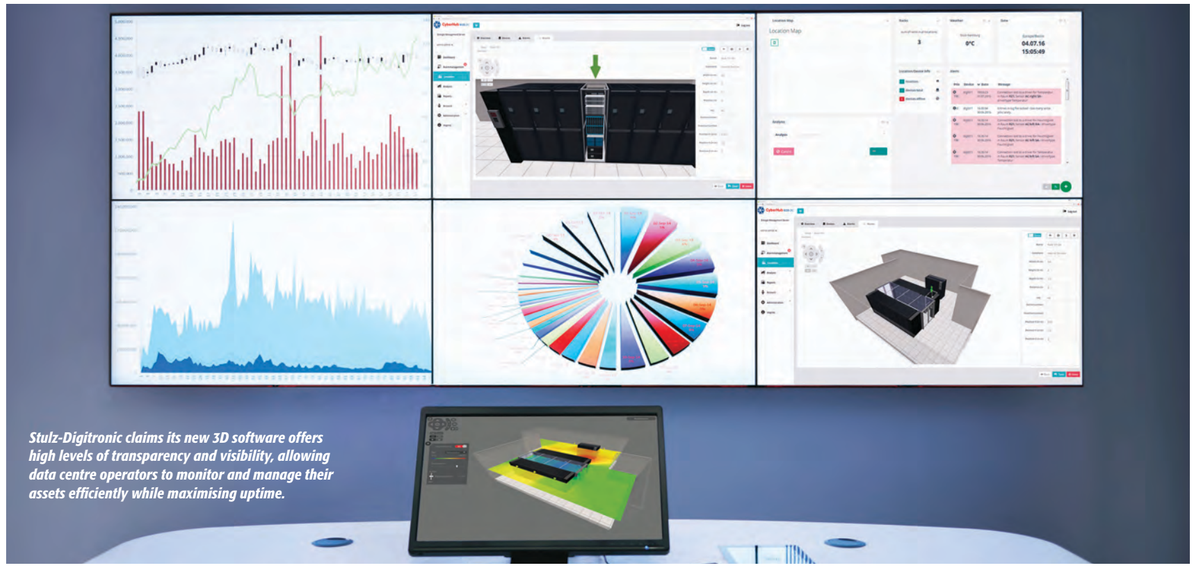


Stulz-Digitronic claims its new 3D software offers high levels of transparency and visibility, allowing data centre operators to monitor and manage their assets efficiently while maximising uptime.

Uncharted LAN ahead?

As enterprise networking tech continues to evolve, what are the LAN management challenges data centre operators need to look out for in 2018 and beyond? RAHIEL NASIR finds out.

Network virtualisation and software defined networks will become "inevitable" in 2018, according to FNT. The Germany-headquartered global provider of integrated software solutions for IT management and data centre infrastructure management (DCIM) reckons any organisations that have not yet adopted these technologies will be in a rush to do so. It says that as products have reached maturity and become easy to implement, there is no longer any reason for organisations not to do so, with continuing growth in network traffic being the biggest driver for the move.

While NFV and SDN present one set of challenges for the data centre network manager (and more on those later), IT management specialist SolarWinds also warns that hybrid or 'mixed' infrastructure will become more of an issue. Destiny Bertucci, the company's 'head geek', says: "The push to be within the cloud is increasing. In turn, the visibility IT professionals have into certain areas of infrastructure that are now hosted off-premises by cloud service providers has been decreasing. This presents a problem for both IT and data centre management because without a complete picture, security holes and misses will become more frequent."

But for Mark Gaydos, CMO with DCIM provider Nlyte, the biggest network management challenges for data centres this year will revolve around greater transparency and overall efficiency. "The increasing number of assets being added to the data centre, from network servers to switches and even racks, is adding to the complexity of the setup. This is having an inverse effect on network performance."

Gaydos says the only way to overcome such problems is by having a full view over each and every component within the estate, including networking components, so that performance can be monitored and improved upon. And that means a dedicated DCIM platform. He says: "Any DCIM solution worth its salt has the ability to manage and monitor data centre LANs, including network devices, ports, connections and cabling. It can also be supplemented with an integrated discovery solution to track real-time changes in a local area network."

While in the past there had been talk in some quarters of the industry about DCIM's days being numbered *(see 'Keeping the data centre at the centre of data' feature, Jan 2017 issue)*, nothing could be further from the truth for the commentators that we spoke to this time around.

For example, SolarWinds is in no doubt that DCIM solutions still cut it when it comes to managing and monitoring data centre LANs."By definition this covers all tools – software to hardware – that help you to organise and manage your data centre, says Bertucci.

"But the trick is to look outside of your comfort zone of tools and see what you are missing. You will need to add to your DCIM [platforms] so that you are covering your needs. This means you should evaluate your data centre and understand the health metric you need to monitor to make sure it is healthy."

Following on from the issue of the 'mixed' infrastructure that she mentioned above, Bertucci's advice is to invest in hybrid IT management software solutions that allow users to gain complete visibility across your entire data centre. But she goes on to point out that when data centre managers look at their monitoring screens and see green, they should not immediately assume that things are running smoothly. "Just because a device is up does not mean it is healthy. Ultimately, the user expectation and experience need to be addressed both on and off-premises."

FNT is likely to agree here. Oliver Lindner, the company's head of business line DCIM, says: "The same pressure that is on data centre operations to reduce cost, optimise capacity use, and increase agility is also true for network operations. To reach these targets, improved visibility across the stack and across silos is needed. Only DCIM products can provide that visibility. End-to-end visualisation (including all supporting devices such as passive components and cables) is critical for impact assessment and root cause analysis."

According to Lindner, using DCIM tools will further benefit organisations by enabling them to continuously re-optimise all aspects of a data centre including power, cooling, networking resources and physical space.

He adds that improving utilisation can also help enterprises achieve greater energy efficiency, leading to reduced operating expenditure and delay – or even avoiding capital expenditure altogether.

The bottom line is that there is no alternative for DCIM. "Efficient and mature data centre operations require suitable management products to complement operations tools," says Lindner. "You cannot operate an agile and secure network environment or a Tier 3 data centre by relying on spreadsheet documentation and planning."

"You cannot operate an agile and secure network environment or a Tier 3 data centre by relying on spreadsheet documentation and planning."

Oliver Lindner, Head of business line DCIM, FNT

New network tech

What impact, if any, will newer technologies such as SDN and NFV have on managing data centre LANs?

Bertucci is in no doubt that training will be vital for everyone in IT for 2018. "The speed of learning these new technologies and their integration has an impact. Implementation of new features and loads, etc., on any type of infrastructure often causes IT organisations to play catch-up when it comes to learning. There are standard practices and tweaking that can produce unexpected outcomes and possible vulnerabilities if not fully vetted."

For Lindner, the broader use of SDN/NFV in all areas inside and outside the data centre, organisations will inevitably require updated operational procedures.

"Not only do these new technologies need (and on a positive note, also enable) new processes, but in most cases legacy technology is still in use. Organisations need to prepare for at least a temporary 'dual mode' operation which in itself requires processes to adjust to the situation in order not to lose all the advantages offered by the new technologies.

"Most organisations will not opt to 'rip and replace' across the entire network to implement these new technologies. Rather, they will opt for a smooth transition, making the dual mode operation inevitable."

He continues by saying that dealing with the challenges of dual mode operations, i.e. operating SDx/NFV and legacy equipment in parallel, will require management products that can deal with both types of technologies.

"Separating the planning and management for these technologies would lead to errors and inefficiencies in roll out and operation. Thus, a centralised database that documents all network assets and connections across all the data centre networks is a necessity. This database should be dynamically updated as change occurs and provide planning capabilities with 'what-if' scenarios, so all network teams are accessing the same accurate, up-to-date data."

Lindner also points out that SDx/NFV is moving 'closer' to IT and often running on regular, standardised IT equipment,

"Implementation of new features and loads, etc., on any type of infrastructure often causes IT organisations to play catch-up when it comes to learning."

Destiny Bertucci, Head geek, SolarWinds

'linking' operations and management. "Both elements must be together to be effective and efficient. The minimum would be a joint database, so that the same data/information is available for both teams. Changes in IT related to network and network requirements will impact IT."

A change in IT operations also has a big impact on network management. For instance, managing workloads in different locations by IT teams is becoming very agile, and those loads are also moving back and forth between sites. Lindner says this has a big impact on data flowing over the network and capacity usage between sites. "Some organisations have already introduced automatic methods to move workloads on their private cloud platforms. When it comes to planning and performing a network capacity expansion, there needs to be a general shift from technology thinking to business views

(platform thinking) with a strong focus on agility and innovation first."

Tracking inventory from dock to decomm

In recent months, there has been a spate of new network management products announcements from specialist vendors.

For example, last autumn, both Nlyte Software and FNT both unveiled new management software within weeks of one another.

Nlyte was first with the launch of *Nlyte 9.0* in October. The company says the newest version of its DCIM platform is completely redesigned from the ground-up to streamline and personalise the user experience for more efficient operational processes in data centres and colo facilities.

At the same time, it is said to add robust support of REST APIs across the entire solution for improved interoperability. The firm says this enables developers to perform requests and receive responses via HTTP protocol, such as GET and POST, customising the way *Nlyte 9.0* extracts information from homegrown management systems, BMS, ITSM systems, or other financial applications. Nlyte reckons this unique ability improves the capabilities to track equipment from 'dock to decomm' – i.e. from the moment it arrives on the dock to when it is scheduled to be decommissioned.

As well as increasing scalability, the new DCIM solution can also be operated on any browsers or mobile devices that support HTML 5. Some of the other features that are said to be unique to *Nlyte 9.0* include multi-level historical breadcrumb navigation. Nlyte says this allows for easy views of recently visited pages with "deep recall" navigation displaying the user's last data changes in an overlay page that can be saved. There's also pervasive contextual search across the solution, enabling users to easily locate relevant data in any given screen or process, plus easier integration into other systems and applications.

Towards the end of 2017, FNT announced the latest release of *ServicePlanet 4*. As a centralised portfolio and service management database, the vendor said its software improves the efficiency and standardisation of business services throughout the entire lifecycle. It said the latest version provides complete transparency into enterprise service management, enabling organisations to design, manage, and monitor products and services.

The increasing number of assets being added to the data centre is not only adding to infrastructure complexity but is also said to be having an 'inverse' effect on network performance. PHOTO COURTESY OF NLYTE

New features include automated, detailed service history. FNT says this improves change handling processes as related service tree changes and business processes can be taken care of via a defined method. Other features include the monitoring of administrative operations, automated status models, HTML front-end views, independent work plan scopes, and flexible attribution functions. The new software also provides automated documentation of all available products and the configured services for greater clarity into the customer-supplier relationship.

According to FNT, *ServicePlanet 4* it increases the speed and flexibility with which enterprises can provide their services. By focusing on service lifecycle management and change handling, the company said it had laid the foundation for future development of its business scope service management. According to the firm, the provisioning of standardised products makes it possible for organisations to consistently deliver high-quality services while reducing costs and IT complexity.

Meanwhile, Paessler has introduced network monitoring-as-a-service that combines its *PRTG Network Monitor* with what it describes as the "flexibility, economy and security" of the cloud.

Using feeds from more than 200 pre-configured sensors, Paessler says *PRTG*'s "highly customisable" dashboards reveal precise information, from real-time intelligence on overall network performance and health, to granular details such as the temperature and capacity levels of individual servers. The platform also integrates with custom sensors, including those used for IoT-connected devices, via a "straightforward" API.

With *PRTG* in the cloud, the firm says netadmins gain the inherent resiliency, speed and security of Amazon's *Elastic Compute Cloud* (*EC2*) platform. No monitoring server or licence is required – users simply add *PRTG*'s *Remote Probe* into their network and within 60 to 90 seconds it's claimed they are ready to see what's happening across their entire IT infrastructure in real-time. Once a subscription is activated, Paessler says it handles everything needed to run PRTG, including updates and regular backups of the client's unique PRTG configuration and historical data. It adds that the service is easily scalable and flexible – in the event of new locations being added, such as through an acquisition, additional IT infrastructure can also be immediately monitored.

Earlier this year, Digitronic Software launched new DCIM software in an effort to help data centre operators identify potential savings, optimise performance, and minimise operational risk by safeguarding reliability.

Nlyte says its latest DCIM software includes several new and unique features, such as the ability to work with any browsers or mobile devices that support HTML 5.

Digitronic Software is a joint venture between cooling specialist Stulz and software development and control systems firm, Digitronic Automationsanlagen. It says *CyberHub ECO.DC* enables 3D visualisation to assist with planning and optimisation of room layout, as well as mapping of temperature profiles. Other critical features include alarm management, with integrated escalation management, and individual status reports.

The company says the software has an easy-to-use operator interface that can be used to collect a wide range of data from air conditioning systems, temperature and pressure sensors, UPS systems and PDUs. It goes on to claim that rapid access to crucial information enables data centre operators to be responsive to events and avert potential problems before they become an issue, thereby helping to avoid risk of outages.

The software is said to offer built-in compatibility with a range of common protocols in the data centre sector, as well as BMS such as Modbus, MBus and SNMP. The firm adds that existing systems can be easily linked via an interface.

CyberHub ECO.DC is available in a fully autonomous local server version that is VM compatible or as a globally available SaaS. Digitronic says the latter is hosted in Germany and therefore conforms to strict data protection regulations. Communication between the base server and the customer interface is encrypted for additional protection, and the overall DCIM solution is DIN 50001 certified.

Last year, MPL Technology claimed it had come up with a unique new platform to address many of the challenges that data centre owners and operators have been experiencing in the DCIM area.

The firm, which bills itself as a global specialist in problem-solving and innovation in mission-critical environments, said *N-GEN* is a culmination of 10 years data centre operational, consultancy and engineering experience spanning a number of multinational blue chip organisations. "We have found that our customers appreciate being able to grow at their own rate and use the relevant DCIM modules only when they need them," stated MPL. "This means that their DCIM implementation path directly reflects their business needs step by step, and this is the best way that we can provide value to their organisation."

It said that because every data centre requirement is different, *N-GEN* can be customised to suit. The platform integrates

third party software, legacy systems, and legacy data centres for a comprehensive view of the estate. MPL claims its expertise in developing hardware and software alongside the relevant services means it can provide an all-round service. The firm reckons this combination allows comprehensive, high-quality problem-solving capabilities in the IT and mission-critical infrastructure arena.

MPL goes on to boast that as a "pioneer" in the design, development and manufacture of PDUs, it can deliver the "most expansive" range of solutions to cater for a wide range of power management needs. The company states that its line-up of products serves both facilities and IT and aligns them in the dashboard and reporting, resulting in "smarter business decisions with no gaps in management reporting".

What to avoid

With various platforms available in the market, what are the pitfalls to avoid when looking for network monitoring and management solutions? SolarWinds' Bertucci warns against choosing a "one sided solution" as this gives you a tool that only provides insight in one area.

"It may do it very well for one particular vendor, but it is a great solution for this niche only. You are then left with having to piece together other one-off solutions for areas where you have a lot of metric, but ultimately no way to correlate them all to use in your favour.

"For me the better option is a multi-vendor solution. This may not go into the exact detail, but it does give you the metrics needed for a healthy data centre. It is best to have reportable and clearly stated tools that can give you true baselines and represent your infrastructure as a whole."

FTI is likely to support this view when it says organisations adopting new tools and technologies should avoid any lock-in situation – that includes both vendor lock-in using proprietary products, as well as internal lock-in where neighbouring departments that should be included in planning and operations are overlooked. Lindner adds that solutions need to provide well-documented interfaces (preferably REST APIs as its new software does) to enable integrations and end-to-end workflow automation.

Nlyte's Gaydos says the biggest pitfall to avoid first and foremost is poor planning. "An organisation without a clear goal will fail. Even with the best solutions in mind and extensive training, if a proper use strategy has not been put in place, organisations will struggle to integrate the new solutions and not benefit from the improvements."

He says a further pitfall comes following installation, in the shape of monitoring. "Without the correct data centre infrastructure management software, organisations will not be able to build on the new systems and see where further network improvements can be made."

What about security – how can such solutions deal with the ever present threats of cyber attacks and data breaches?

"Baselines within monitoring tools are a fantastic way to back a security plan," says Bertucci. "If you have a baseline, you are able to see anomalies that would have gone under the radar. This allows you to quickly address the issue and then setup thresholds for future events.

"Monitoring tools also provide you with feedback from patching or upgrading around vulnerabilities. You have a 'before solutions' baseline, one during, and one after, which allows you to showcase if the vulnerability 'fix' degraded within any metric you are monitoring."

Lindner also points out that tools need to be integrated and that teams need to cooperate.

"It is very difficult to identify a breach at a specific point as most attacks today use complex mechanisms. Simply monitoring a single firewall will not work. Next generation products also support 'cloud based' analysis allowing equipment to learn from incidents happening in other sites.

"With all the focus on technology and tools, we should not forget people. Enabling and training staff for the new technologies and making them aware of the need for closer cooperation between the teams will be essential for a successful implementation. Also, a new skillset and a new way of thinking is needed for 21st century agility."

What's clear in all of this is that network monitoring and management is vital for data centre operators and that DCIM should be chosen as the tool of choice.

As Gaydos concludes: "DCIM is more than just a 'nice to have.' It can reduce the cost of running a data centre, provide better visibility over the entire estate, and is often the first line of defence against downtime. With more services now relying on the smooth running of the data centre, DCIM has become the 'must have' in the fight for market supremacy." ■

"With more services now relying on the smooth running of the data centre, DCIM has become the 'must have' in the fight for market supremacy."

Mark Gaydos,
CMO,
Nlyte,

off-the-shelf: cables & cabling accessories

Get connected

We kick-off the year with a roundup of some of the latest cables and cabling accessories.

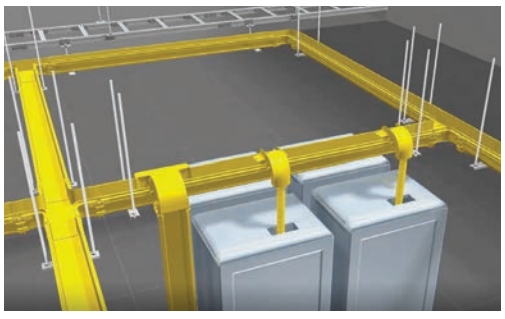
Excel Networking Solutions has introduced what it describes as a "strong and sturdy" protective storage solution to complement its *Enbeam* range of fibre products.

The company claims its new yellow duct trunking system is in a different league to other cable management and tray systems, and offers several unique benefits to fibre users.

For instance, the system can be pieced together using a range of individual trunking segments that offer various bend radii and lengths. According to Excel, these connect together in an "infinite" number of ways, allowing users to create a fibre storage solution that is "fit for purpose". The only tools needed are a drill, a screwdriver and a saw to cut the channels to the precise lengths required.

Once installed, the firm says because each segment of trunking is a standalone piece of plastic, users can simply remove the section of the cover that they need to make changes without having to disrupt the whole setup. Excel reckons this increases the system's overall durability and longevity. It adds that the trunking is also fully enclosed, protecting the fibre from dirt and dust.

Available in 120mm and 240mm thicknesses, the system is manufactured using flame-retardant ABS material, and meets the LSOH standards to further enhance the protection of the cable.



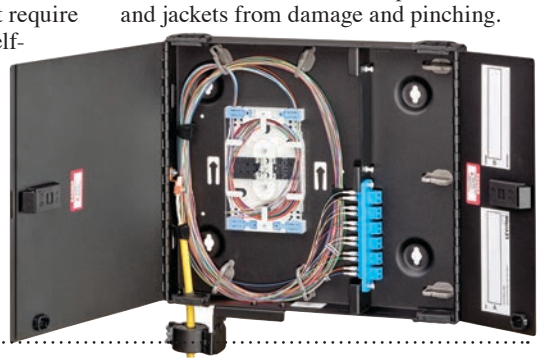
Leviton has added more products to its range of *Opt-X* fibre enclosures. The company says its new *SDX Wall-Mount Fibre Optic Enclosure* line simplifies the selection, installation and maintenance process for contractors.

The enclosures are said to have been engineered to support a wide array of indoor environments, such as remote network hubs that require a variety of fibre counts, service provider installs that need higher security options, and data centre zero-RU applications that require field splicing (splice trays and self-contained splice modules are both included).

Leviton says it has even taken extreme space concerns into consideration, offering mounting options for non-traditional network areas such as under a desk or inside a cubicle wall.

The enclosures accommodate the vendor's *SDX* and *HDX* adapter plates, cassettes, splice trays and splice modules. Four sizes are available, ranging from the *Mini Enclosure* that houses one *SDX* component and patches up to 24 LC fibres, to the *Large Enclosure* which houses 12 *SDX* components and patches up to 288 LC fibres.

Each one includes locking doors and dual-door access to separate user and service sides, along with cable and patch cord protection to make it easier for contractors to dress-out and protect cable and jackets from damage and pinching.



A simple invention is aiming to save companies millions of pounds in downtime and loss of service caused by cables being unplugged and then re-connected into the wrong ports.

The brainchild of Mark Costigan, an IT network designer from Tyne and Wear, it's claimed *SergeantClip* eliminates the chance for mispatching following switch replacements or upgrades.

Fitting the product is said to be very simple: users just open the hinged clip, rest the cables in the grooved slots inside it, and then close up again.

SergeantClip can hold six or 12 individual twisted pair cables before they are disconnected from a block of switch, server, patch panel or storage ports. The cables are said to be held loosely but securely in place without the risk of being damaged, and stay in sequence as they are disconnected from a network device.

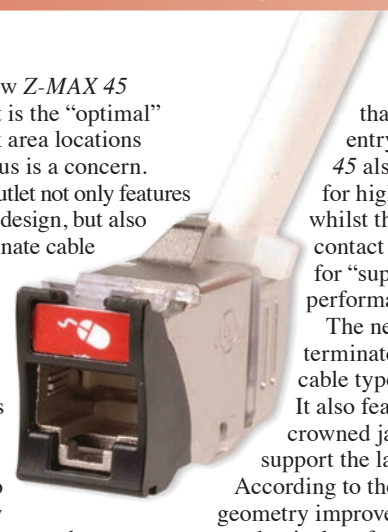
Once the required equipment work has been completed, the clip and its captive cables can be brought back into position and the cables reconnected. *SergeantClip* can then either be removed or left in place to simplify ongoing support and documentation.

Each clip supports Cat3, Cat5, Cat5e, Cat6 and Cat6A twisted pair cables, and is currently available in 6- and 12-port versions.

Siemon reckons its new *Z-MAX 45* shielded Cat 6A outlet is the "optimal" solution for tight work area locations where cable bend radius is a concern.

The vendor say the outlet not only features a shorter and compact design, but also has the ability to terminate cable at a 45º angle, thus reducing rear depth requirements whilst maintaining proper bend radius.

The *Z-MAX 45* uses a reversible rear cap that enables cable to exit the outlet at 45º to accommodate shallow back boxes and wall-mounted raceway applications. Siemon say it has 40 per cent less depth compared to standard outlets, and a hybrid design that supports both flat and angled mounting orientations.



The company adds that unlike true 90º side entry outlets, the *Z-MAX 45* also enables side stacking for high density applications, whilst the plastic bezels prevent contact between metal housings for "superior" alien crosstalk performance.

The new outlet can be terminated to stranded and solid cable types from 22 to 26 AWG. It also features Siemon's patented crowned jack-plug connection to support the latest PoE applications.

According to the firm, crowned jack geometry improves electrical and mechanical performance. Siemon says it ensures that any contact damage caused by arcing while unmating under PoE load occurs well away from the final mated contact position.

Trans Data Elektronik (tde) is now offering MPO patch cords equipped with MTP *Pro Connectors* manufactured by US Conec. According to tde, the connectors are capable of performing quick and easy gender and polarity switches while maintaining high performance level.

Thanks to the new MTP *Pro* patch cord, the firm reckons it is possible for service technicians to work more flexibly when it comes to cabling infrastructure. It says there is no need for them to carry all connector varieties on-site, and further claims that even networks with 40G or 100G connections can be configured with greater versatility on site using the existing cabling and the right patch cord.

According to tde, technicians only need to use a specialist tool to convert patch cords with *Pro Connectors* from male to female. It says changing polarity from type A to type B (or vice-versa) is quickly achieved and means maximum flexibility for service technicians. The firm adds that even installing or removing MTP *Pro* guide pins does not negatively impact the performance of the connectors, which is another unique characteristic.

The cords are now available in 12- and 24-fibre MPO as single mode in OS2, as well as in OM3 and OM4 multimode fibre types. They are shipped with tde's familiar cable construction of protecting the loose tube with a sturdy internal tube.

Westermo has unveiled a new version of its *Wolverine Industrial Ethernet Line Extender* that includes functionality designed to help to overcome both power and unit failure.

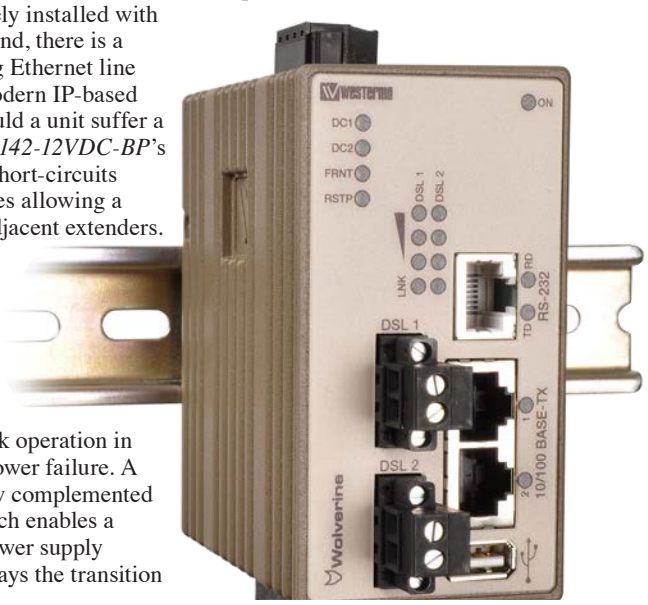
The company developed its line extenders to enable resilient industrial networks using existing cable infrastructure. Its *Wolverine DDW-142-12VDC-BP* is based on SHDSL technology and enables existing copper cables to be used for the creation of Ethernet IP-based networks.

Westermo points out that because old cable networks were rarely installed with resilient data paths in mind, there is a potential risk when using Ethernet line extenders as part of a modern IP-based network. It says that should a unit suffer a power failure, the *DDW-142-12VDC-BP*'s integrated bypass relay short-circuits the two SHDSL interfaces allowing a renegotiation between adjacent extenders. This then allows communication to be restored automatically.

In addition, the company says the device offers 'power failure resiliency' to ensure continued network operation in the event of a primary power failure. A dual power supply is now complemented by a 12 VDC option which enables a battery to provide the power supply redundancy. Westermo says the transition between primary and secondary power is "immediate and seamless", ensuring maximum network uptime.

It's claimed the *DDW-142-12VDC-BP* enables networks to be created over distances of up to 15km, offering data rates of more than 15Mbps on a single twisted pair cable. Bonded pairs are said to double this rate to more than 30Mbps.

Westermo says an integral switch enables two Ethernet devices to be attached, and a further RS232 port ensures legacy equipment can be incorporated into an IP network.



Women in tech still a 'work in progress'

The gender gap is still not closing quickly enough in the technology sector, according to Search Consultancy.

After analysing 10 years worth of data collected related to placements made between January 2007 and December 2017, the recruitment firm found that women are still struggling to break through into the traditionally male-dominated industry.

Search discovered that women made up 13.6 per cent of all workers put into IT roles in 2007. According to its study, this figure climbed by only 1.8 per cent in 10 years to reach 15.4 per cent in 2017.

Looking at the specific roles women are securing, the firm believes there is still a long way to go to levelling the playing field. For instance, it says that in 2007, only nine per cent of manager/leader positions were obtained by women; for 2017, that figure stands at just 14.8 per cent. Other key data showed that 10 per cent of all developer roles went to women in 2007 and grew to just 14.8 per cent 10 years later.

On a more optimistic note, year-on-year comparisons across the same period from 2016 to 2017 saw an increase in female appointments into director roles. In fact, Search says that nearly a quarter of directors (22.2 per cent) it placed were women, a rise from zero in 2016.

"It's clear from the research there is still much work to do in creating some gender balance within the IT sector," says Donna Turner, Search's director of IT recruitment in Scotland. "We have to accept that, for whatever reason, it is predominantly men who are attracted to the IT sector, and that is reflected in the data. It is incumbent on schools and businesses to do more to make the sector a more attractive option for women."

There is still much work to do in creating gender equality in the IT sector, says Search director Donna Turner.

High-skilled talent "ebbing away" following Brexit

Migration figures released by the Office of National Statistics (ONS) indicate a growing brain drain of skilled workers leaving the UK to look for opportunities elsewhere in the EU, warns a specialist law firm.

At the end of last November, ONS statistics showed another drop in net migration to 230,000 with EU net migration being the lowest since June 2013 (down 54,000 from the previous year) while EU emigration increased by 28,000 to 123,000.

After speaking to several companies, business immigration specialist Laura Devine Solicitors reckons this increase in emigration is largely due to EU nationals "losing confidence" in the UK as a destination to build their futures in, and leaving in growing numbers or choosing not to relocate to the UK as a result. It adds that announcements like those recently highlighting the relocation of major European agencies moving to Paris and Amsterdam are certain to fuel the trend.

Sophie Barrett-Brown, head of UK immigration at Laura Devine Solicitors, says: "Since the Brexit referendum there has been no change in EU free movement law and no material changes to the UK immigration rules driving this reduction. So the fact that fewer skilled people are coming to the UK and more are leaving is not due to greater control of migration, rather it reflects the personal choice of migrants. The numbers are falling because the UK is seen as a less desirable place to do business, to live and work."

IN BRIEF...

■ Government Knowledge (GK) training is running a course to help organisations understand the General Data Protection Regulations (GDPR) which comes into force in a few months time. Delegates will learn about the legal requirements when handling and storing personal data, understand the process of notification and registration with authorities, and identify the special circumstances that warrant exemption from parts of the Data Protection Act. Courses are being run in London, Manchester and Birmingham, or can also be tailored to run in-house. *Further information: 0203 910 7043.*

■ The *everywoman in Tech Forum* returns to London Hilton Park Lane on 8 February, with a line-up of speakers that promises to feature some of the world's "most influential" female tech entrepreneurs. They include: Inma Martinez, venture partner at Deep Science Ventures; Suki Fuller, founder of Miribure; and Elena Corchero, founder and director of Lost Values which makes the *ZippyKit* range of toys aimed at bridging gender gaps in STEM subjects. Senior execs from big name organisations such as BP and Accenture will also be presenting at the event, along with the founders of Blippar, Cognition X, and Elvie. *www.everywoman.com*

■ University of Plymouth students who have successfully completed the *Cyber Security Analyst* degree apprenticeship pathway will now gain automatic Associate Membership of the Institute of Information Security Professionals. Plymouth is the first university to be accredited under this new scheme. The IISP has been working closely with the UK Tech Partnership and other bodies to define the criteria for the apprenticeships which are based on its Skills Framework. It says this framework is widely used as a standard by the industry as well as by the government to underpin its *Certified Professional* scheme.

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