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PC firmware weakness exposes encryption keys to attackers

Consultants from cyber security provider F-Secure have found a weakness in modern computers that attackers can use to steal encryption keys and other sensitive information.

The discovery has compelled the researchers to warn PC vendors and users that current security measures aren't enough to protect data in lost or stolen laptops.

Attackers need physical access to the computer before they can exploit the weakness. F-Secure principal security consultant Olle Segerdahl says that once this is achieved, an adversary can successfully perform the attack in about five minutes.

The weakness allows the attackers to carry out a 'cold boot attack'. This involves rebooting a computer without following a proper shutdown process, then recovering data that remains briefly accessible in the RAM after the power is lost. F-Secure says hackers have known about this type of attack since 2008.

While modern laptops now overwrite RAM specifically to prevent attackers from using cold boot attacks to steal data, Segerdahl and his team have found a way to disable the overwrite process and re-enable the decade-old cold boot attack.

"It takes some extra steps compared to the classic cold boot attack, but it's effective against all the modern laptops we've tested," explains Segerdahl. "And since this type of threat is primarily relevant in scenarios where devices are stolen or illicitly obtained, it's the kind of thing an attacker will have plenty of time to execute."

According to F-Secure, the attack exploits the fact that the firmware settings governing the behaviour of the boot process are not protected against manipulation by a physical attacker. Using a simple hardware tool, the hacker can rewrite the non-volatile memory chip that contains these settings, disable memory overwriting, and enable booting from external devices. The cold boot attack can then be carried out by booting a special program using a USB stick.

Segerdahl says that because this attack works against the kind of laptops used by companies, there's no reliable way for organisations to know if their data is safe in the event of a computer going missing. He adds: "There's no easy fix for this issue either, so it's a risk that companies are going to have to address on their own."

continued on page 2

F-Secure have identified a weakness that allows hackers to carry out a 'cold boot attack' against modern laptops.

More than a quarter of key IT investments set to shift to cloud

Twenty-eight per cent of spending within key enterprise IT markets will shift to the cloud by 2022, up from 19 per cent in 2018, says Gartner.

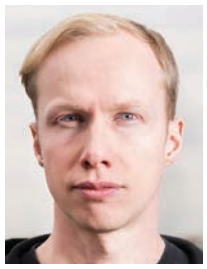
The analyst expects growth in enterprise IT spending on cloud-based offerings to be faster than growth in traditional, non-cloud IT offerings. Despite this, it says traditional offerings will still constitute 72 per cent of the addressable revenue for enterprise IT markets in 2022.

According to the forecasts, more than $1.3tn in IT spending will be directly or indirectly affected by the shift to cloud over the next four years.

Gartner says the largest cloud shift prior to 2018 occurred in application software, particularly driven by CRM which has already reached a tipping point where a higher proportion of spend occurs in cloud than in traditional software. The firm believes this trend will continue and expand to cover additional application software segments, including office suites, content services, and collaboration services, through to the end of 2022. It adds that application software will retain the highest percentage of cloud shift during this period.

The researchers go on to forecast that almost one-half of the addressable revenue will be in system infrastructure and infrastructure software over the next four years. They say system infrastructure will be the market segment that will shift the fastest between now and 2022 as current assets reach renewal status. This segment currently represents the market with the least amount of cloud shift. Gartner says this is due to prior investments in data centre hardware, virtualisation and data centre operating system software and IT services, which are often considered costly and inflexible.

Gartner research VP Michael Warrilow says: "As cloud becomes increasingly mainstream, it will influence even greater portions of enterprise IT decisions, particularly in system infrastructure, as increasing tension becomes apparent between on- and off-premises solutions." ■



F-Secure principal security consultant Olle Segerdahl warns that a lot of companies are likely to have a weak link in their security that they're not fully aware of or prepared to deal with.

PC firmware weakness identified

continued from page 1

Segerdahl advises organisations to prepare themselves for such attacks. He says one way is to configure laptops to automatically shut down/hibernate instead of entering sleep mode, and ensuring users enter the Bitlocker PIN any time *Windows* boots up or restores.

He adds that IT departments should have an incident response plan ready to deal with laptops that go missing: "A quick response that invalidates access credentials will make stolen laptops less valuable to attackers. IT security and incident response teams should rehearse this scenario and make sure that the company's workforce knows to notify IT immediately if a device is lost or stolen. Planning for these events is a better practice than assuming devices cannot be physically compromised by hackers because that's obviously not the case."

Segerdahl has shared his team's research with Intel, Microsoft and Apple to help the industry improve the security of current and future products. ■

West Midlands and 3D holograms play key role in 5G developments

The West Midlands has been selected to host the UK's first multi-city 5G test bed.

The *Urban Connected Communities Project*, the next step in the government's 5G *Testbed and Trials Programme*, will develop a large-scale, 5G pilot across the region, with hubs in Birmingham, Coventry and Wolverhampton.

An initial £25m is being made available from the Department for Digital, Culture, Media and Sport (DCMS), with £25m of funding to be matched by regional partners. Up to an additional £25m may be made available at a later stage.

The West Midlands Testbed is said to be the first of its kind anywhere in the world. Following its selection through open competition, the West Midlands Combined Authority (WMCA) will now work with the DCMS and partners on preparing the formal business case for approval, with the first of a series of projects expected to go live early next year. The authority will initially focus on the health, construction and automotive sectors.

Meanwhile in September, Vodafone announced that it had conducted the first live holographic call using 5G. Manchester City and England women's captain Steph Houghton, stationed in Manchester, interacted in a 3D, real-time communication with Vodafone enterprise director, Anne Sheehan, in Newbury. Also taking part was 11-year-old Manchester City and Lionesses fan Iris from Surrey. Despite being more than a 190 miles away, she was able to be in the 'same room' as her idol thanks to the use of a Microsoft *HoloLens* VR headset connected via 5G.

Despite being more than 190 miles away in Newbury, 11-year-old Iris was able to use 5G and a VR headset to realise her dream of being with her idol, Manchester City and England Women's Captain Steph Houghton, in Manchester. Pictured right is Vodafone enterprise director, Anne Sheehan.

The call follows Vodafone's successful first test of 5G spectrum across a live network in April 2018 (*see News, April issue*). In October, the operator will switch on 5G trials in the first of its city test beds, following end-to-end testing at its lab in Newbury. Manchester and Birmingham will be the first of seven test cities to go live (*also see News, June issue*).

The operator adds that it will also roll out 5G to popular UK holiday destinations such as Cornwall and the Lake District during 2019. ■

THE WORLD ACCORDING TO...

Paul Routledge, UK&I country manager, D-Link

Two gigs on the LAN are worth an ax in the bush

Should we say a polite 'no thanks' to Wave 2 because there's a better Wi-Fi standard due soon?

Wireless LAN buying decisions are a bit like trains at the moment. You have an agonising decision to make as you hang around the platform looking for signs of hope. Wave 2 has arrived and people are moving down the platform. But you've heard that a much more powerful, spacious and fast vehicle – the 802.11ax – is coming.

The new 802.11ac Wave 2 standard (to give its full name) is a case in point. It builds on Wave 1, whose performance on power, bandwidth and speed were a revelation when launched back in 2011. Wave 2 makes a significant improvement because it distributes data much more powerfully. It's like the semi-fast train that's in the station right now.

But should you hold your nerve for the promise of a much faster locomotive with luxurious carriage options? The only nagging doubt is that there's no confirmed time of arrival. If it all goes according to the timetable, the 802.11ax will arrive in 2019 and offer the experience of 'up to' a ten times throughput.

So do you opt for Wave 2's one gig in the hand now, or gamble in case you get many times that speed from the ax in the bush?

Okay, so Wave 2 is a small advance on Wave 1. By contrast, ax ups the ante significantly with its OFDMA (orthogonal frequency division multiple) which chops each channel into hundreds of smaller sub-channels with different frequencies. So up to 30 clients can share a channel rather than having to take turns broadcasting and listening on each.

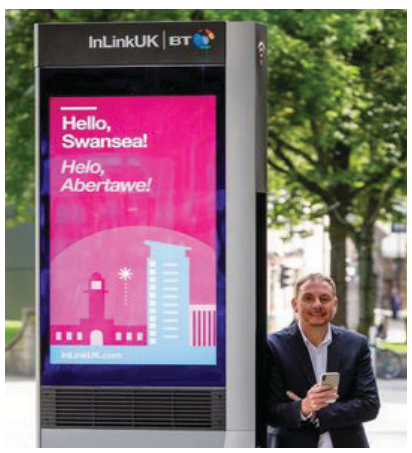
Wave 2's channels widths have doubled to 160MHz so it can stream data at 866 Mbps for a single 802.11ac – but that pales against ax's promised data streams which will race at 3.5Gbps.

Technically that's impressive. But who really needs that sort of performance? What are you, a crypto currency business? Why pay for something you don't need?

BT's free ultrafast Wi-Fi and phone calls reach Wales

Swansea has become the first Welsh city to benefit from the free *InLinkUK* service from BT.

The first 11 *InLink* kiosks have been installed in and around the city centre and will provide ultrafast Wi-Fi speeds of up to 1Gbps. They also provide free phone calls to UK landlines and mobiles, rapid mobile device charging, the *BT Phone Book* app, as well as easy access to charity helplines.



Swansea Council leader Rob Stewart with one of the city's new InLink kiosks. They will support both Welsh and English, with the main screens showcasing dual language community information at launch and the interactive tablet to follow shortly.

BT first unveiled its *InLink* service last year (*see News, March 2017*). The telco says the kiosks mean more space on pavements as, on average, each *InLink* replaces two BT payphones. Around 24 payphones are set to be removed from Swansea after being replaced by 12 *InLinks*. BT's red phone boxes will remain.

At the end of August, BT said the first of the fully-accessible *InLinks* had recently gone live on Princess Way and Castle Street, with further activations expected in the coming weeks. The new *InLinks* will support both Welsh and English languages, with the main larger screens showcasing dual language community information at launch, and the smaller interactive tablet to follow shortly.

The UK rollout has so far seen more than 200 *InLink* kiosks installed in Leeds, Gateshead, Glasgow, Southampton, Newcastle, Sheffield, as well as eight London boroughs. BT plans to install hundreds more in key towns and cities across the UK.

The company adds that since the first *InLink* was launched in June last year, more than 148,000 people have subscribed to the service's free Wi-Fi, using enough data to download the equivalent of more than 27 million songs. BT says the kiosks have also saved people more than £660,000 in free calls, with 50,000 calls being made on average every week across the country. ■

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KADIUM

Enterprises creating "back door" for hackers

More than a quarter of corporate IT departments must wait at least a month before they can install vital security updates. That's according to a new study from enterprise content delivery company Kollective which examines the software testing and distribution bottlenecks throughout large organisations in the UK and US.

As part of its *State of Software Delivery* report published in August, Kollective commissioned an independent survey of 130 UK and 130 US IT decision makers earlier this year. The research reveals how network security in UK businesses is failing to meet industry expectations. The study found that the failings are especially common among large organisations, with 45 per cent of those with more than 100,000 computer terminals having to wait at least a month before installing vital security updates.

Thirty seven per cent of those polled cite 'a failure to install updates' as the biggest security threat of 2018. Kollective says this makes outdated software a bigger threat than password vulnerabilities (33 per cent), BYOD/BOYA (22 per cent) and unsecured USB sticks (nine per cent).

The company blames this failure to install updates on a combination of slow testing procedures and an inability to distribute updates automatically at scale. It says that while businesses are spending more than ever on enhancing and improving their security systems, this investment is wasted if they aren't keeping their systems up to date.

Kollective CEO Dan Vetras says businesses are wasting their money on enhancing security systems if they aren't keeping their systems up to date.

"While it's obviously important for IT teams to spend time testing new software and updates before rolling them out, our research has found that many of the delays in software distribution aren't because of testing, but rather a lack of infrastructure," says Kollective CEO Dan Vetras. "Poorly constructed networks mean that, even those companies that have made a significant investment in security software, are still leaving their organisations vulnerable to attack."

He goes on to warn that with a growing number of applications being left out of date, today's businesses are "creating" their own backdoors for hackers, botnets and malware to attack. ■

Networks Centre acquires Comms Centre International

Networks Centre has announced the acquisition of Comms Centre International, a privately owned company that started trading in 1989. The two companies will continue to operate out of their respective offices in Strood, Kent and Horsham, West Sussex, to ensure that customers will have uninterrupted service. Networks Centre claims the acquisition means it is now one of the UK's largest, independently owned IT physical layer distributors. MD Duncan Lindsay says the combination means the company can offer a deeper pool of technical knowledge, larger stock holding, a training school and wider product range. He adds: "This acquisition is part of Networks Centre's ongoing strategy to grow our market share in the UK and overseas markets." ■

Bomgar and BeyondTrust combine

Privileged access management provider Bomgar has signed a definitive agreement to acquire BeyondTrust from an affiliate of Veritas Capital. The merged entity will be called BeyondTrust and headquartered in Atlanta, US. It will be led by Bomgar CEO Matt Dircks who says: "The greater scale and resources of the combined company will allow us to accelerate innovation and deliver technology that protects our customers from constantly evolving threats." The terms of the transaction, which is expected to close in October, have not been disclosed. Earlier this year, Bomgar was acquired by technology-focused private equity firm Francisco Partners. ■

Drobo and Nexsan merge with StorCentric

Newly formed storage company StorCentric is planning to acquire Drobo and Nexsan for an undisclosed amount. Drobo is described as the "preferred storage solution for prosumer and SMB customers" while Nexsan specialises in enterprise storage. Both brands will be retained and organised into two divisions within StorCentric, reporting directly to CEO Mihir Shah. The combination of the companies means StorCentric will have more than 150 employees across locations in North America, Europe and Asia. ■

Scottish secondary school in LiFi world first

A Scottish secondary school is claiming a world first with the deployment of a pilot wireless network that uses LiFi technology.

Pupils at the Kyle Academy in Ayr are using a high-speed wireless internet connection that uses light, rather than radio waves used in Wi-Fi, to transmit data.

By using light waves, LiFi is said to offer "unprecedented" bandwidth. At Kyle Academy, it is expected to significantly enhance the connectivity of the classroom and enhance the learning environment for pupils.

According to researchers, light spectrum is 10,000 times wider than RF spectrum. Li-Fi operates in visible light frequencies between 400THz and 800THz. As this is at the higher range of the electromagnetic spectrum, the technology is able to deliver higher capacity throughput of up to 1Gbps.

The idea of using off-the-shelf light bulbs for super high-speed transmission initially came from research carried out by Harald Haas, professor of mobile communications at Edinburgh University's School of Engineering/Institute of Digital Communications, in 2011. The following year, Haas went on to co-found pureLiFi in order to commercialise the technology.

The installation at Kyle Academy includes pureLiFi's *LiFi-XC* system. This comprises eight LiFi-enabled LED bulbs in the ceiling, and students have been given access to *LiFi-XC Stations* that plug into their laptops enabling high-speed connectivity through the lights.

The Kyle Academy project is being conducted in conjunction with the University of Edinburgh and is being overseen by Scottish Futures Trust, which supports the Scottish Government's Digital Strategy.

The Scottish Government also supported the pilot with a £16,000 grant through its Digital Schools initiative for equipment and installation. pureLiFi and the LiFi Research and Development Centre at the University of Edinburgh provided resources for the execution of the pilot with hands-on support and subsequent testing.

Pupils at the academy show off their LiFi-XC Stations that plug into their laptops. Also pictured: pureLiFi CEO Alistair Banham (standing centre); Professor Harald Haas (standing right); and Scottish MSP Paul Wheelhouse (seated middle).

pureLiFi CEO Alistair Banham says: "The students at Kyle Academy are taking part in the early adoption of technology that will someday be in every light and every device connecting everyone and everything. This is just the beginning for LiFi, on our journey toward unprecedented data and bandwidth." ■

Survey identifies "biggest threats" to IT industry

Political uncertainty and the challenges posed by growing costs are considered the biggest threats to the IT industry, according to Uninterruptible Power Supplies Limited (UPSL).

As part of the 2018 version of its biennial industry survey, the Hampshire-based UPS specialist questioned more than 800 senior IT and data centre professionals across the UK and Ireland.

More than 35 per cent of respondents said political uncertainty represents the biggest threat to their business over the coming 12 months. This was closely followed by rising costs (including energy costs), which received almost 32 per cent of the vote.

UPSL director Tim Wilkes says the research results reveal how the UK's IT and data centre business landscape has shifted in just two years.

Increasing regulatory burden came in third with nearly 13 per cent, with increased competition from new and existing players completing the top five responses.

"When comparing the latest results to those from 2016, it is clear there's been a significant shift in attitudes," says UPSL sales and marketing director Tim Wilkes. "Political uncertainty didn't register as a top ten response back then but that was before the Brexit vote and the impact that it's had on the value of the pound."

Wilkes reckons the latest results says a lot about how the UK's IT and data centre business landscape has shifted in just two years – in 2016, rising energy costs was the top concern for more than 77 per cent of respondents.

When asked what impact Brexit will have on their business, more than 60 per cent stated that will have a negative effect, while 15.10 per cent felt Britain's departure from the EU would be commercially positive. ■

CPR clarification

Our feature about how data networking cables should comply with the EU's Construction Products Regulation or CPR (*see 'Connecting with the law,' Jul-Aug issue*) included a statement which said, among other things, that the "regulation is only focused on the fire performance of the jacketing material, and not the construction of the cable…" *Networking+* reader Neil Mabbott has emailed to say this could be misleading.

He writes: "This is not correct, every part of the cable contributes to the fire and the CPR is 'product' orientated only, not just the sheath. When the acidity is tested, every part of the product is tested. During the fire, a product can have the best flame retardant sheathing, but if the inner parts are all flammable the flame will increase very fast. The flaming droplets in most cases come from the material that has melted inside as well as outside of the product and fallen into the flames, caught fire and landed on the ground."

Mr. Mabbott says he started in the cable industry in 1990 and has 25 years experience flame testing cables. He is currently technical director at Draka Comteq, Prysmian Group, and has been a member of various industry committees including chairing CENELEC SC46XC, BSI EPL46 and the BCA Digital Committee, as well as being an observer on SH02WG10, the CPR EU Commission committee for controlling notified bodies). ■

EcoStruxure™
Innovation At Every Level

BIG IDEA

Will your data centre handle your next big idea?

Animal Logic, the animation, and visual effects studio behind films such as The LEGO Movie, The Matrix, and The Great Gatsby, is benefiting from high-performance computing, all from quickly deployed, prefabricated data centre.

Schneider installed a customised prefabricated data centre to support their high density applications and bring animated characters to life on the big screen.

Join us at DCD London, booth #45
to learn more about our prefabricated data centres.

schneider-electric.com/ecostruxure-datacenter

Life Is On | Schneider Electric

THE IoT CONNECTION

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

Connected drones carry crucial medical supplies

AT&T and Softbox have conducted proof of concept trials to see how drones can be used to safely deliver temperature-sensitive medicines in areas affected by natural disasters.

UK-based Softbox provides specialist temperature control packaging to the pharmaceutical industry. In late August, it was announced that an LTE-connected drone carrying *Skypod* – Softbox's thermal-insulated packaging system which includes a smartbox powered by AT&T's IoT technology – successfully completed demonstration flights. The trials took place in locations across Puerto Rico in collaboration with pharmaceutical company Merck.

AT&T's IoT technology tracks the *Skypod* with data viewed on a web and mobile app dashboard. The data includes the box's near-real time external and internal temperatures and its location. The dashboard can flash alerts to help drive appropriate action – for example, it will send an alert if there is a change to the temperature range of 2°C to 8°C. It will also send an alert if the drone goes outside of defined geofencing parameters.

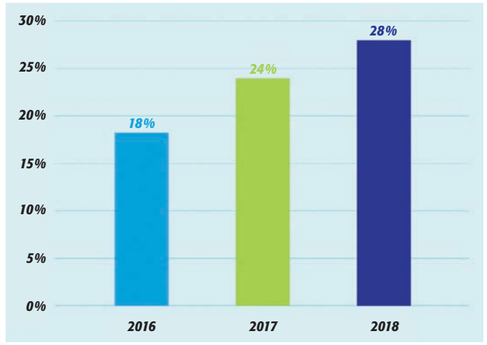
Furthermore, during daylight, light exposure data helps signal if the payload has been tampered with by determining if the package is open or closed.

AT&T's various control centres connect and manage the *Skypod*'s sensor data transmission, and the web and mobile app reporting dashboard. The drone is also connected to the AT&T network, providing a communications path for flight plan and telemetry data between the drone and ground control system.

Softbox worked with the AT&T Foundry to develop its *Skypod* from a prototype that started out as a connected flask. The foundry is a network of innovation centres that collaborates with startups, technology providers and enterprises to move ideas to market faster through rapid prototyping. It moved the IoT sensors that track temperature and location from the lid of the original prototype and integrated them into the smartbox.

AT&T is keen to work on projects that showcase what it describes as the "IoT for Good". After Hurricane Maria hit Puerto Rico last year, the company deployed the *Flying COW* (*Cell on Wings*), a mobile site on a drone. It was the first time a drone had been used to connect residents with their mobile phone services after a disaster.

A flying Smartbox From AT&T and Softbox shows how the IoT can help safely deliver vital medicines in a crisis.



Despite being a relatively new technology, use of Docker has seen major growth since last year. Sumo Logic says this also implies growing use of microservices-based applications.

SOURCE: THE STATE OF MODERN APPLICATIONS & DEVSECOPS IN THE CLOUD, 2018 EDITION

Decline in exclusively on-premise workloads

The percentage of exclusively on-premises workloads has fallen "dramatically", according to new research by Sumo Logic.

For its third annual *State of Modern Applications and DevSecOps in the Cloud* report, the company found that such workloads have decreased from 26 per cent in 2017 to 16 per cent this year, indicating that the number of organisations building digital properties in the cloud is increasing.

Sumo Logic provides a cloud-native, machine data analytics intelligence platform. Its report is based on active and anonymised data from more than 1,600 customers and 50,000 users who use its service and run massive mission-critical applications on *Amazon Web Services* (*AWS*), *Microsoft Azure and Google Cloud Platform*, as well as hybrid cloud infrastructures. Seventy per cent of Sumo Logic's customers uses *AWS*.

The study reveals that *Azure* adoption has risen from 10 per cent in 2017 to 15 per cent in 2018. Sumo Logic says this signals demand for multi-cloud choices which have also grown from six to nine per cent since last year.

There has also been "significant" growth in containers. According to the company, container technology such as Docker enables DevOps teams to build, ship and run distributed applications more efficiently. It also believes Docker is an "excellent" infrastructure choice to build microservices.

The report found that *AWS* Docker adoption has grown from 24 to 28 per cent over the last year. Use of *AWS Lambda* – which enables IT teams to run code without requiring them to provision or manage server infrastructure – is also up, at almost 30 per cent adoption in production compared to 23 per cent in 2017. Sumo Logic says many of the initial use cases for *AWS Lambda* are focused on cloud/DevOps deployment and automation.

In addition, the company states that customers are using many services to improve application security. More than 50 per cent of AWS applications are using Amazon's primary *CloudTrail* audit service, but for further security, Sumo Logic says they should also deploy VPN and analyse virtual private cloud flow logs.

The researchers go on to warn that while new/evolving tools provide security analytics for portions of the cloud and application stacks, the integration across these tools can be "overwhelming" for those responsible for security. ■

Companies see need for SD-WAN but deployments still slow

Increasing pressure on both resources and budgets as IT teams look after more complex network infrastructures is driving companies to examine SD-WAN's potential, says Teneo.

In a survey carried out on its behalf by Sapio Research, Teneo questioned 200 senior IT and networking managers in the UK and US at companies with worldwide operations and revenues ranging from £100m to £30bn in size.

It found that one-in-five has deployed an initial SD-WAN project with 48 per cent investigating the technology in a limited form, such as a proof of concept at some sites.

When respondents were asked why they were considering SD-WAN, 36 per cent cited the increasing complexity of network infrastructure and performance tasks, closely followed by 34 per cent who said they were driven by the need to cut network costs, and another 34 per cent who are looking for better management of network infrastructures.

Teneo CTO Marc Sollars says network managers are looking at SD-WAN strategies to run multiple networking environments in standardised ways.

Half of those questioned said that deploying and managing networking infrastructure is time consuming, and others estimated that these upkeep tasks consume 36 per cent of their overall IT budget. A third said that they had used Xaas models from external providers to keep on top of maintenance tasks.

Researchers also found that companies are blending connectivity options to get necessary bandwidth: 38 per cent want to add more MPLS; 22 per cent want more internet connectivity; while 20 per cent want to add a combination of both of these. Less than one in five said their needs were satisfied.

However, the study also revealed that just under a third of interviewees has yet to examine SD-WAN's potential, although 27 per cent say they might do so at some point in the future.

Teneo CTO Marc Sollars adds that while many firms are putting a toe in the water on SD-WAN, it's still very hard to say when this test phase will start to translate into enterprise-level implementations. He says: "In many ways, the broad range of choice that SD-WAN brings is what's causing companies to hesitate over their decisions." ■

Ontix to end mobile 'not-spots' in central London

Ontix has signed a new strategic partnership with Westminster City Council that promises to deliver "world class" wireless service to residents, businesses and visitors across the London borough.

The wireless IaaS provider says that following a competitive tender, it was awarded a 10-year concession contract giving it exclusive rights to deploy small cells on the council's street furniture and lampposts. Ontix claims this will provide "next-generation" wireless infrastructure to mobile operators and other wireless network operators.

A pilot wireless small cell network will be deployed in Trafalgar Square this November. This will be available for all operators to trial. A rollout across the wider Westminster area is then expected to continue during 2019, spanning many of the capital's most popular tourist attractions.

Ontix says that in recent years, pressure on Westminster's legacy network infrastructure has been growing, with operators struggling to access enough suitable rooftop sites to deploy the macro cells they have been using to date.

Ontix is deploying a pilot small cell network in Trafalgar Sqqure in November. Traffic will be backhauled using the company's hybrid Metrohaul transmission network.

As part of its 10-year partnership with the council, the company will also use its hybrid *Metrohaul* platform to build a high capacity, neutral-host backhaul network to deliver 5G-ready connectivity for all operators. This will also be available as part of the small cells trial.

Ontix says this will feature a dark fibre core that will connect its fibre nodes in rings. Using the latest wireless equipment, the company says it will then provide high capacity, resilient connections from each fibre node to multiple small cells.

Ontix goes on to claim that unlike the traditional managed fibre links used by mobile operators, its costs will be lower and time to market will be shorter because it does not need to install fibre to every small cell. It adds that solution will also be resilient because its fibre will be deployed in independent 'rings' that will allow traffic to be rerouted if one ring is cut. ■

Tungsten gains new voice for contact centre

Tungsten Network will use cloud-based contact centre technology from NewVoiceMedia for recording, reporting and routing customer calls.

London-headquartered Tungsten Network is a global electronic invoicing firm that provides supply chain financing services to 300,000 customers in 192 countries. Following a market evaluation, the company replaced technology from ShoreTel with NewVoiceMedia's *NVM* platform which offers *Salesforce* integration, call recording and reporting capabilities, as well as global call routing architecture.

Kevin Braim, head of technical operations at Tungsten Network, says: "We wanted to improve our customer experience by deploying cloud contact centre technology with crystal clear voice quality and efficient Salesforce integration, as part of our long-term strategy."

According to the vendor, Salesforce computer telephony integration is central to *NVM* and that it blends effectively for better access to rich customer data from which contact centre agents can make personal connections through every channel.

The company adds that thanks to the platform's *Global Voice Assurance* feature, Tungsten Network can route calls using the most efficient path, ensuring clear voice quality by making use of the telephony infrastructure local to the caller and the agent.

It says calls can be "easily" overflowed between regions to reduce wait time and maximise service levels, while reporting can be consolidated and simplified, giving the business a global or local view of performance statistics and reducing overheads.

■ As we went to press, news emerged that US-based cloud-based communications services provider Vonage Holdings Corporation had agreed to acquire New Voice Media. In a brief online announcement, New Voice said that Vonage will pay an equity price of $350m in cash.

IT helps make the numbers add up

Financial institutions need reliable networks if they are going to correctly balance the books.

Miles better: video means journeys end for accountants

With 400 employees and an annual turnover of £40m, Menzies offers accountancy services and finance and business advice. Its offices are in London, Cardiff, Whitely, Egham, Woking and Farnborough.

Travelling between these locations for internal meetings and for appointments was costly and caused logistical problems, although the meetings were usually fruitful. In addition, the firm had attracted new clients, both in the UK and overseas.

Menzies had experimented with standard telephone conferencing and unified communications (UC) systems, but reports that poor sound quality and complex operating interfaces made these often unreliable and ineffective and therefore unsuitable for client interactions.

One of Menzies' partners, Graham Seddon, says: "We have trialled systems in the past where the video has frozen and the audio has cut out, which is far from ideal when communicating with important clients."

The firm consulted a number of providers in its search for an effective system that would enable instant, high-quality video and audio communications between colleagues and clients wherever they were.

It chose a company based in Watford, StarLeaf, which has developed a cloud-based system supported by points of presence in north America, Europe, Asia and Australasia.

StarLeaf's GT Mini was installed across all of Menzies' seven offices in a two-week period and StarLeaf organised a live-video training session to a group of Menzies staff, who could then help their colleagues to use the system effectively.

The StarLeaf app was installed on staff tablets and mobile phones to enable messaging, voice and video calls, and means all employees can join video conference calls remotely through the StarLeaf cloud, for communication between colleagues and clients at home or abroad.

Mr Seddon says the video and voice quality made it seem as if meeting attendees were in the same room. He says: "We have noticed a significant reduction in travel expenditure and our staff now have more time to support their clients.

"The StarLeaf video meeting room system and mobile app is the future of communication for our business. It is improving the efficiency with which we operate, reducing key overheard costs and enabling us to move towards a more flexible, client-focused way of working. In our business, providing the highest levels of service to our clients is how we set ourselves apart from the competition."

Business lender finds new hosting provider

Visiting an IT exhibition proved fruitful for Just Cashflow, a specialist lender to UK businesses – among the exhibitors was a company that became its hosting provider.

Just Cashflow is based in Clerkenwell, London, and has further offices in Birmingham, Glasgow and Swansea. Owned by JLG Group, it lends sums of £10,000 to £2m to businesses who pay interest only on what they draw down. It says the service is an alternative to a bank overdraft or business loan.

Just Cashflow's range of financial products include a Mastercard credit card; Revolving Credit Facility; Portfolio Builder for established property companies; Business Accelerator; and Business Builder, similar to a bank loan, for longer-term borrowing.

Unhappy with its hosting provider, Just Cashflow had been seeking a cloud provider which offered the scalability to keep up with the fast growth of the business.

Having met on the exhibition stand in London, it began discussions with the Brighton-based managed hosting provider, Hyve, which put together a proposal.

Now Just Cashflow is hosted in Global Switch 2 (*pictured above*), in the London Docklands, on the Hyve enterprise cloud for primary hosting, and in a data centre in Woking for disaster recovery, promising instant fallover in case of problems.

The head of digital creative at Just Cashflow, Joseph Lee-Brown, says: "One weekend we booked in migration on a Sunday, and we got everything sorted so that no one saw any drop in email or the site, and it all went over seamlessly".

Hyve says that Just Cashflow enjoys the fact that its staff can speak to real humans, has real-time monitoring in place and benefits from a full security suite.

Hyve also takes care of archiving and backing up all of Just Cashflow's files and data, and renewing of the company's domain names and the setting up of new domains.

Mr Lee-Brown says Just Cashflow benefitted from increased speed: "No matter how slick the code is on the site and it being responsive, if it's running on slow servers, then loading time is going to be slow."

Hyve says customers do not face unexpected bills. Most request a fixed monthly price based on RAM, CPU, and storage and management. Among its other clients, it lists TK Maxx, Safestore, Tesco, Southampton FC and the RSPCA.

Struggle is now over thanks to hybrid WAN

Mazars specialises in audit, accountancy and consulting and has 1,600 staff in 20 UK offices and a total of 20,000 around the world. The firm runs private MPLS circuits from the data centre at its UK head office in Tower Hill, London.

When Mazars opened branch sites in Australia, Delhi and New York it found that the existing infrastructure was not able to offer the same quality of service as its UK offices. Users overseas struggled to connect to cloud-based applications such as Citrix and Skype over the long distances.

Mazars decided to move to a hybrid WAN for minimal disruption, lower cost and greater bandwidth while complementing its MPLS circuits. It turned to Solar Communications.

Headed by John Whitty, CEO, Solar was founded in 1988 and has offices in Manchester, Chippenham, Cardiff and Harlow. It lists among its customers Eddie Stobart, the Woodland Trust, Chichester Festival Theatre and the North West Ambulance Service.

After a pilot, Solar Communications installed an SD-WAN at Mazars' offices in Australia, Delhi and New York as well as at 15 of its UK sites. Solar says that, as well as cost savings, moving to a hybrid WAN means internet services can be introduced to the WAN without impact on application performance or the existing MPLS network.

The SD-WAN, says Solar, automatically selects the optimum path for every application. For example, prioritising business-critical traffic. Payback starts immediately; starting with its Sydney office, Mazars had reduced its dependence on international MPLS lines by migrating to local internet breakout for direct branch to cloud access.

Solar also supplied management software to give Mazars visibility and control of data centre and cloud-based applications.

This means, says Solar, that Mazars can centrally assign business intent policies to secure and control all WAN traffic and help the company achieve its aim of moving away from Citrix and embracing a fully cloud-based environment using *Microsoft Azure* and *Office 365*.

Solar reports that Mazars' WAN traffic has reduced by more than 40 percent, enabling the firm to deliver cloud-based applications across its UK and international offices with employees benefiting from better performance and QoS.

Mazars' chief technology officer, David Bennett, says: "The implementation was pain-free and as we look to move home into a fully cloud-based environment, Solar will help us to manage that transition – and our costs."

Solar sourced the products from Silver Peak.

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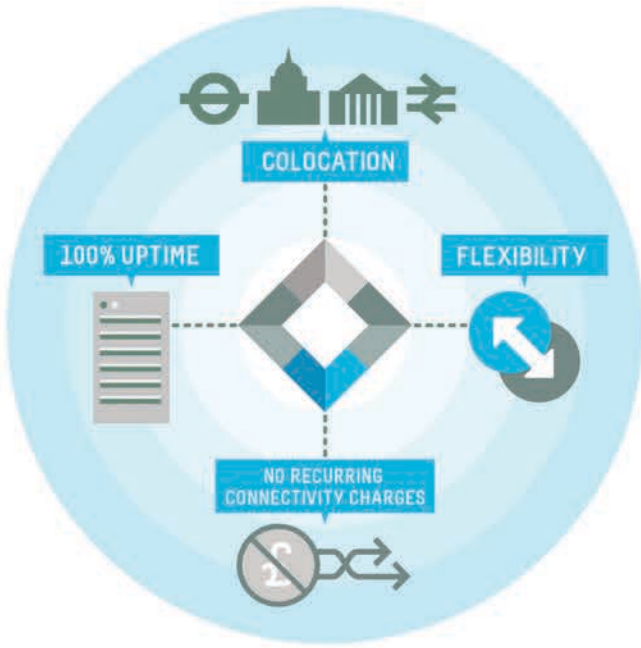

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The centre of attention

According to UKFast, there are three vital factors that make a "great" data centre: fire suppression; a high level of organisation and cabling standards; and power supply plus redundancy.

How do data centre providers differ from one another and what are the key characteristics you need to look for when choosing a supplier and services? RAHIEL NASIR finds out.

The colocation data centre market in Europe saw "exceptional" growth during the second quarter of this year and is set to have a "mammoth" year, according to CBRE.

In its *EMEA Data Centre MarketView* for Q2 18, the company – which claims to be the world's largest commercial real estate services and investment firm – said that 177MW of new colo supply will be brought online during 2018, and that take-up during the first half of the year hit record levels at 87MW.

Across Europe's four largest colo markets – Frankfurt, London, Amsterdam and Paris (FLAP) – CBRE found that total supply reached 1,256MW at the end of the quarter, and that 50 per cent of new supply landed in London. As a result, the report states: "Any political and economic uncertainty in the UK, with regard to an exit from the EU, has not yet been felt on the London colocation market".

So when considering colo services (and indeed any other data centre services) should you look for providers based in the capital?

Steve Hone, CEO of the Data Centre Alliance (DCA), says while London is still a popular data centre location the quality of power in the city is actually not that good. He points out that at any one point in time, the National Grid is over capacity by three per cent in the capital. While this has so far not led to brownouts, any strain on the grid – such as demand spikes generated by a particularly cold winter, for example – does leave the city susceptible.

"Speed of connectivity and availability are what make London popular in terms of a data centre location," says Hone. "But no one in their right mind would colo in Docklands because of the poor power and the real estate prices which are through the roof. There are data centres in London that are struggling; there's too much space and not enough power. No one wants 2kV in Finsbury Park or wants to pay for sky-high prices for five racks in 200ft^2."

Hone adds that some London data centres are finding it hard because they are single sites and don't offer secondary or tertiary facilities outside the city for backup/redundancy. "These centres are good but not filling up because the 'big boys' have upped their game in terms of flexibility and services."

One of those "big boys" is US-based Equinix. It operates more than 180 centres globally including a dozen facilities in Manchester and London. When it comes to choosing a data centre, the company's UK MD Russell Poole says major enterprises like to see service providers offering a wide spread of locations especially in major metropolitan areas. "By situating a data centre at the digital edge – where the physical and virtual worlds come together – enterprises can be close to their customers and therefore deliver fast and secure services."

As an example, Poole says Equinix's Slough campus is "strategically situated to be near to Canary Wharf" and City firms. "The recent decision to expand our *LD4* data centre at this campus came as a direct response to the increased demand from financial services companies, both from the UK and all over the world, wanting to connect to their customers, partners and suppliers in a single financial ecosystem."

He adds that Manchester is an ideal data centre hub in the UK because it not only sits at the intersection of the country's highly resilient 'figure-of-eight' fibre optic network, but also because it is a comms hub linking other major UK cities as well as the US and Europe.

Volta MD Jon Arnold also believes that, along with cost, security, reliability and connectivity, location is another decisive factor businesses will need to consider when choosing a data centre. Arnold reckons Volta's "many" customers were attracted to the company because of its data centre which is at Great Sutton Street in London. "The facility is uniquely designed to provide a flexible, secure and sustainable IT environment to cater to businesses requiring a Central London location – such as those in the financial, media and content industries – as well as ultra-low latency. Our location has meant working with the world's leading carriers to deliver ultra-fast, resilient connectivity to users of latency-sensitive services."

Arnold goes on to say that depending on the needs of the business, data centre location can be a deciding factor as proximity can have wider consequences that need to be taken into account. These could include ease of access for the company's engineers, seeing if there are plenty of diverse fibre paths to the building, if the centre is in a flood plain or on a flight path, and also how close the facility is to the customer and its end users if Edge computing is required.

But Arthur Howie, product manager at aql telecoms, points out that while regulatory requirements around security may affect location, this has otherwise become less important. "Some organisations consider that distance from the service provider is a key issue, and whilst this may be true for some applications the trend towards cloud services and colocation show that this is sometimes an unnecessary fear.

"The high capacity, low latency and non-disruptive scalability of advanced networks, combined with the enhanced reliability of equipment hosted off site in environments with professional installation standards, reliable power and cooling, means the need for equipment access is rare. 'Smart hands' supplier services can also offer maintenance 24/7, eliminating the need for staff call-outs and travel time and costs."

Paul Hanson, director of Birmingham-based IT consultancy eSpida, agrees here: "Depending upon what services are needed, location may or may not have an impact. For example, if you need to carry out your own patching and running updates across the estate, can this be undertaken remotely and what would be the implications if you needed to be in physical attendance? Do you purchase the smart hands service, or invest in your own to attend the premises? If you do attend for regular maintenance cycles, could you reach the centre if we get another 'Beast from the East'? These are all important considerations for businesses to make."

Choosing your provider

The DCA defines commercial data centres (as opposed to private facilities) as those that offer the traditional services of space and power, managed services, hosted services, and cloud-based services (although it is noted that the latter providers rent space in existing facilities operated by others). Hone says hyper-scalers, such as Amazon, Facebook, Microsoft, can also be included but they do not as yet exist in the UK. "So what we're looking at are the colo, cloud and managed service providers. Following consolidation in the market over the last few years, we estimate that the UK currently has around 130 commercially-facing data centres, which are Tier II and Tier III. These are spread across 80 providers of which only a handful, such as Equinix and Pulsant for example, have more than four or five centres in their portfolios."

And if there is one thing the industry agrees on it is that of these data centres and service providers, no two are the same. "There are so many different variables that it can be daunting for a network manager to know what to look for, particularly when so many companies are now born in the cloud and have never owned their own kit," says Node4's datacentre operations manager, Rik Williams.

According to Neil Lathwood, CTO with UKFast, there are several factors that make a great data centre but three are absolutely essential: fire suppression; a high level of organisation and cabling standards; power supply and redundancy (the higher the level of redundancy, the more reliable the centre).

Some of the other factors he says network managers should consider include power generation and certifications. "UKFast data centres are supplied by mains power but also have a backup generator on-site that provides a minimum of 48 hours power in the event of a grid outage. All good data centres will have similar measures in place.

"A good data centre will have relevant industry certifications such as ISO and government certifications. For example, for security, a good provider is ISO 27001-certified, PCI-compliant and secured to government standards.

Furthermore, Lathwood believes a provider should ideally own the land and building its data centre is in, as this makes the service and supply chain more secure over the long and short-term.

Williams reckons this last point is possibly the most important differentiator, as data centre providers that not only own the data centre, but the entire managed IT platform and network have much more control. "Having total ownership of infrastructure that is 100 per cent designed, built, owned and managed by the data centre provider means they have absolute control over the quality and flexibility of solutions for customers, something that network managers will be particularly interested in."

Naturally, different enterprises and organisations have different needs, so as Equinix's Poole points out, it's imperative that they weigh up the options and choose a service that fits them. "Different data centres suit different partners. For example, some have increased power capabilities so they are an ideal fit for companies that have high intensity data demands running around the clock. Most enterprise data centres are built to cater for power and cooling loads of around 4kW, but most Equinix facilities can handle up to around 18kW before we must start building custom solutions. Businesses should also be able to choose a solution that fits their individual needs."

Richard Blanford, founder and MD at Fordway, echoes this point to an extent when he says that as well as checking out technical details such as SLAs, security etc., you need to be confident that the way the provider works fits the way your organisation needs to operate. "You're unlikely to be able to persuade larger providers to revise their processes to suit you, so if you have very specific requirements you'll be better off talking to smaller providers.

"It's also important to think about the cultural fit between your organisation and a potential provider. This may seem trivial, but when you're considering a multi-year agreement which will impact the services you offer your end users, it helps to ensure that all parties are aligned."

Arnold advises readers to look for a number of key differentiators when choosing a data centre provider, including: connectivity ("the more carriers available, the better choice for the end user"); 100 per cent uptime; location; and security.

He also recommends seeking out an operator that is carrier and cloud neutral: "It is important in the hybrid world that data centres offer multiple access to various cloud platforms and continue to grow the cloud ecosystem. Being placed within a data centre that is both carrier and cloud neutral will give organisations the freedom to choose which provider they would like to connect to."

While cloud connectivity remains key, Poole points out that some customers will not need links to clouds all around the world. In such cases, he says enterprises should be able to select a cloud service that gives them connectivity in their specific market.

So when it comes to choosing individual services such as, for example, SaaS/PaaS/IaaS, etc., are there different considerations for network managers to take into account?

"A key consideration is how much work you want to do yourself," says Blanford. "With colo, all you're getting is racks, power and hopefully more easily provisioned network and internet connectivity – the rest is up to you. If you choose IaaS on public cloud, for example, you only get hosting, including host and hypervisor patching and proactive infrastructure security monitoring. So you'll still need to provide patching, resilience, backup, security and application support, and maintenance inside the instance.

"If you don't want to do this you need to choose managed IaaS which typically includes provision of the operating system, monitoring, patching, authentication and specific security, including a dedicated firewall. Managed IaaS services effectively offer your application back to you as an SaaS."

The pitfalls to avoid before signing on the dotted line

According to Gary Kilmister, head of data centres at Pulsant, looking at a provider that has in-house skills and a portfolio of services and partnership to offer full lifecycle solutions is becoming more prevalent.

But here, eSpida's Hanson warns: "It is all too easy to move to a data centre supplier with the view of reducing your internal management overhead in supporting your infrastructure and services. But be aware that you could also be depleting your internal IT skills, and so if there is any need to disengage with the data centre you must be certain that you can cope with reverting back to on-premise systems at relatively short notice."

Kilmister continues by saying that as companies enter the IT journey, they need to ensure that their provider has the resources, utility services and space to be able to meet ongoing needs, and that these may well change especially if moving from off-premise colo to managed/cloud or hybrid solutions.

He also advises readers to look at what resources are available with the data centre provider: "Are these matched to

your current and ongoing requirements? Are they able to offer consultancy/ professional services to assist with the roadmap of the business? This is becoming more of a consideration moving forward especially with on-premise to off-premise to hybrid solutions."

Blanford says it's vital to carry out due diligence to ensure that the provider is suitably financially secure and can continue to deliver services for many years to come. He adds: "It also helps to ensure that you know the supply chain of the elements you are signing the contract for, as in many cases the data centre owner or manager is not the organisation which is selling you the contract."

On the subject of contracts, what should network managers look for in the SLAs that they develop with their chosen data centre providers?

Volta's Arnold says that after having identified what they want, businesses should also consider the factors that want to avoid or be aware of. Some things to consider are the data centre's historical performance (number of outages), if there are costly additional charges such as cross-connects, and whether there is additional capacity for growth."

aql's Howie supports this when he says that the SLAs should be comprehensive in their coverage of all things that may influence the business now or in the future. "The use of established frameworks procured by trusted experts will guide readers in what to look for in the SLAs. Clearly, SLAs carry a cost, so try to negotiate around the price, service level and risk you require. Service credits should be seen as sufficient motivation to secure and maintain good service, but not as a means of reducing cost through an expensive confrontational approach to suppliers."

Scott Campbell, business development manager with Surrey-based design consultancy Comtec, adds to this by saying some very high-uptime environments will build credits into their SLA; for example, a colo provider could issue credits if power is unavailable.

He goes on to say that while creating an SLA document can take some time, having a good agreement and establishing clear lines of demarcation are crucial. "Creating an SLA is a partnership between the data centre provider and the customer. Expectations must be clearly laid out to ensure that all performance, recovery and other expectations are met.

"Often, an SLA can be developed based on the needs of the organisation and what is being hosted within the data centre infrastructure. This means identifying key workloads, applications, servers and more. From there, an organisation can develop base service agreements for uptime, issue resolution, response time and more."

UKFast's Lathwood continues with the uptime theme when he says network managers must consider the business RPO (recovery point objective – how much downtime they can afford to have) and the RTO (recovery time objective – the time in which the process must be restored), and work from there.

"Some businesses can afford half a day of downtime, whereas others cannot afford 10 minutes," he says. "Network managers must also look into when disaster recovery begins – is it when the business rings to say their website is down? Or does the provider always know if their servers are experiencing downtime? Are there staff on site to deal with the problem?"

Blanford believes that defining RPO in advance makes it much easier to negotiate with a service provider. He says a service with an SLA of 99.5 per cent measured annually (i.e. allowing up to 43 hours downtime per year) needs considerably less resilience and is therefore much less expensive to operate and support than one with an SLA of 99.95 per cent measured monthly, which allows a maximum of 21 minutes downtime per month.

Ultimately, the type of SLA you reach with the data centre provider will depend upon what service you are taking. Blanford says: "For colo, key SLA requirements are [about] physical and remote access, and what remote hands and infrastructure monitoring capability is provided. For IaaS/PaaS/SaaS, before asking providers what SLAs they offer, you need to define the service levels you require, which sets user expectations and enables you to align service cost to the agreement."

eSpida's Hanson reiterates some of the points made earlier about the importance of ensuring that SLAs are future-proofed for growth and change. "Consider whether the data centre can accommodate all of your business needs beyond the next 12 to 24 months. In many cases, it's valuable to look at how the SLA suits the company's roadmap over the next seven years and understand what impact any significant changes, either to the business or to the data centre's services, would have on the SLAs."

Moving forward together

Once the SLA has been agreed and a contract is signed, what should the network manager expect from their chosen data centre provider?

"A keen focus on innovation and ensuring the site is updated in line with industry demands, especially in terms of security, power provision, cooling technologies and connectivity," says Pulsant's Kilmister.

He also says it is equally important for data centre operators to form partnerships with the main manufacturers and make sure that their technology roadmaps are aligned. "[They should be] working on ever-developing network solutions and service offerings that can be explored and implemented into solutions, ensuring customers are able to utilise and maximise technology and service offerings, but supported by the data centre provider."

Meanwhile, aql's Howie states that as a provider it is always great to have an open and transparent relationship with clients. He adds that regular access to review the service and early insight into developments of client strategy and upcoming projects is also helpful in order to offer good forecasting, support, service delivery and agility.

But at the same time, Hanson points out that clients must recognise that any significant business changes, for example, new applications, will not just happen overnight. "By outsourcing to a data centre you will need to understand and follow the provider's protocols, since you are one of thousands of clients for that provider. This must also be factored into the chain of events to undertake such a change when subscribing to these services."

At the end of the day, and as Volta's Arnold concludes, expectations from both parties need to be based on what is being offered from both sides. "Flexibility, simple but secure processes, and ease to do business with should sit at the top of a network manager's expectation list, whilst a cohesive partnership will be an expectation of the data centre provider." ■

Equipment stash

You know where you can stick all your IT gear, don't you? If not, here are some recommendations. Plus, JAY FRANETOVICH offers six top tips for effective rack builds.

1. Always plan for expansion
When loading the rack/enclosure, be sure to leave space, as things will inevitably change during the initial rack build. No one wants to have to re-wire a whole rack because you're adding three more rack spaces of equipment. Be sure to future-proof the rack for any additions as technology changes and the system grows in the years to come.

2. Know the thermal properties of the equipment
Heat is the enemy of technology, causing increased wear and breakdowns. Understanding the type of cooling that is required is a tremendous help in determining the layout of the equipment and the thermal accessories needed for a properly cooled rack.

3. Plan for proper cable management
Cable management is just as important as the thermal management. Ensure that you keep in mind things such as bend radius, signal separation, cable strain, and serviceability.

4. Location, location, location
Locations of equipment are important in numerous ways. Have customer-interactive equipment placed at an ergonomic location for accessibility and viewing. High heat generating equipment should be at the top. Keeping the heavier solutions at the bottom ensures proper weight distribution within the rack for safety.

5. Be cognisant of the environment
Knowing that you have the right hardware required ensures a safe install. Understanding how cables enter the rack as well as if there are any acoustical impacts such as noise emissions are key considerations when determining what's appropriate for the rack build.

6. Hide racks in plain sight
Fully integrated systems are moving into untraditional locations rather than dedicated rack rooms. With this new trend, there's an increasing need for innovative ways to hide and yet fully support technology. Consider modern rack solutions designed to take the same reliable system approach to rack integration but in smaller or unique form factors that can fit in the room. There's a range of options available today that include systems that can mount anywhere – under the table, in or on the wall, in the ceiling or floor, or into existing furniture.

Jay Franetovich is application engineer and product manager at Middle Atlantic Products.

New 19-inch table-top enclosures have been introduced by **Metcase** which says they are suitable for networking and communications devices and test and measurement equipment.

Part of the company's *Technomet* range, they are designed for mounting standard 19-inch sub racks, chassis and front panels. Standard sizes are 3U, 4U and 6U, all 400 mm deep; custom depths can be supplied.

Metcase says the new products combine die cast aluminium front and rear bezels, a folded case body and chassis and four snap-on cover trims with no visible fixing screws. Standard 19-inch panel mounts with caged nut apertures for fixing the equipment are included in the front and rear bezels.

Rear and base panels are ventilated and inside there are two sub rack/chassis support rails. The case panels have M4 threaded pillars for earth connections. There are recessed ABS side handles and ABS non-slip feet.

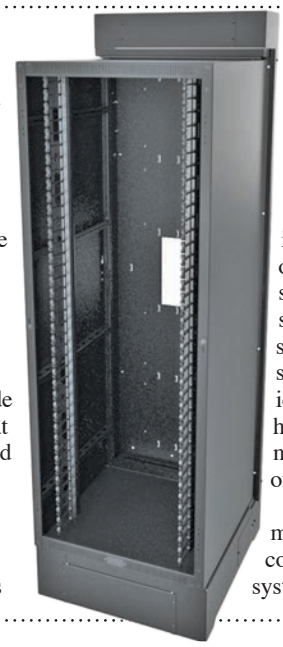
Accessories include 1U to 6U (unvented and vented) 19-inch front panels and M6 caged nuts and fixing screws.

Engineers are promised easier installation thanks to newly introduced wider wall racks from **Middle Atlantic Products**.

They are part of the company's *SR* range of pivoting wall racks and are said to offer more space to manage high-density cable bundles as well as occupying less space than floor-standing models.

The *SR* products include a pivoting mechanism that opens 90 degrees designed to ease access to rear equipment connections.

Middle Atlantic says the wider models take into account that systems are evolving as equipment continues to increase in capability and decrease in size, offering integrators a different option for mounting systems closer to the point of use.



The new models are available in 24 RU, 40 RU, and 46 RU options. They feature the *SR* series' pivoting floor base, said to save an average of nine square feet per cabinet. This, says the company makes them ideal for compact spaces that have a smaller footprint and do not require clearance at the rear of the cabinet, saving aisle space.

They include built-in cable management and the and the company's tool-free *QuickMount* system.

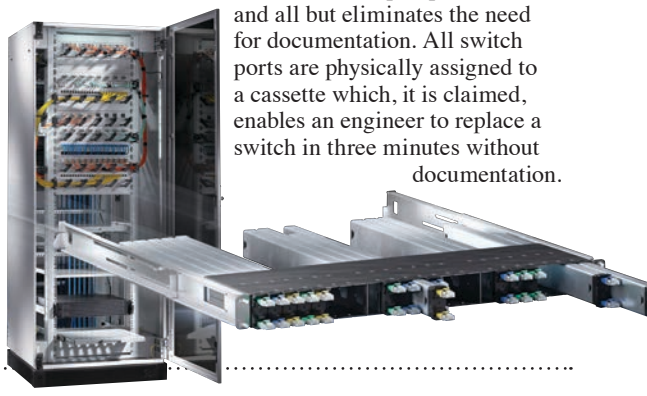
Patching work on enclosures is eight times faster with a new cable organiser, says **Rittal**.

Its *Network Cable Organiser* (*NCO*), measuring 482.6mm (19 inches), occupies 1U and contains 24 CAT 6, Class E patch cables or fibre-optic cables, each 1.6m long (sufficient for 23U).

It is, says Rittal, a modular sheet metal unit comprising individual cassettes, each with an integrated pulley which allows surplus cable to be drawn in automatically. As a result says the company, each cable is available in the perfect length, eliminating the need for stock.

As well as an overview of what is connected where, Rittal cites these benefits: more efficient airflow cooling because excess cable is contained; requires 1U per switch; cable management panels are not needed; flat cables save two-thirds of space; tool-free mounting; and ideal for retrofitting into 800 mm racks

Rittal says that the *NCO* can either be fitted with a cassette with a Cat6 patch cable or a fibre-optic patch cable and all but eliminates the need for documentation. All switch ports are physically assigned to a cassette which, it is claimed, enables an engineer to replace a switch in three minutes without documentation.



New enclosures in 42U and 47U sizes have been introduced by **Tripp Lite**. Called the *Euro-series*, they are part of the company's *SmartRack* range.

They are available in a combination of widths and depths; racks without side panels are available for where several cabinets are installed as a bay.

Tripp Lite says all of the *Euro-series* models have sturdy steel frames and lockable front and rear doors which are perforated to support front-to-rear airflow in hot-aisle/cold-aisle configurations.

The company says the *Euro-series*, which are ready-assembled, have casters, levelling feet and stabilizing brackets and are compatible with all EIA-standard rack equipment.

They are available in 600mm or 800mm widths and depths of 1,000 or 1,200mm. There are adjustable mounting rails and tool-less mounting slots designed to ease the installation of equipment. Tripp Lite offers a five-year limited warranty.

QA to deliver Leadership Academy

Socitm, the professional association for digital leaders in local public services, has chosen QA to run its Leadership Academy.

Since being set up in 2015 the academy is said to have seen more than 200 public sector professionals complete its programmes. Given its success, and by incorporating programme places into its corporate membership, Socitm is now aiming to put more than 200 people a year through the academy.

Three programmes are available to help organisations tackle skills shortages, improve succession planning and retain top talent. They include: Empowering Women in a Digital World (EWDW) which is aimed at aspiring female leaders predominantly from the public sector; Senior Leaders, a new one-day workshop aimed at driving the cultural change needed to enable the best business-focused outcomes; and Top Talent, which offers public sector delegates leadership training and coaching.

QA says it will also continue to deliver monthly webinars for Socitm members. The webinars will focus on leadership areas to help participants develop the skills and behaviours necessary to fulfil their leadership potential. In addition, the company will provide on-site training for the organisation's top-tier Executive members who will be able to choose from a comprehensive suite of courses according to their specific needs.

Former Socitm president Nadira Hussain has been appointed as the association's new director of leadership development and research which will include leading the academy's work. Hussain stepped down in March from Socitm's board after seven years as a non-executive member. During her tenure as president in 2015-16, she set up the Women in IT initiative and was the creator of the EWDW programme.

Registrations for all courses open on 1 November 2018. *www.socitm.net*.

Manufacturing industry IT capabilities "average, weak or non-existent"

The manufacturing industry is being held back by a lack of robust IT capabilities at shop-floor level, says InfinityQS.

According to the company – which specialises in data-driven operational insights for global manufacturers – despite the manufacturing industry being in the midst of the fourth industrial revolution, research reveals that the sector isn't actually ready to fully embrace digital transformation.

In a survey of more than a hundred global manufacturers to see how prepared they are for a digitised future, InfinityQS found that 64 per cent are concerned about the maturity of their shop-floor IT capabilities, rating them as "non-existent", "weak" or just "average-at-best".

The company says its findings revealed that the shop floor is still reliant on using "outdated" manual processes, such as pen and paper, to record critical data. In total, only six per cent of the manufacturers surveyed consider that the level of their IT capabilities to be at an optimal level.

"We see on a daily basis that the IT capabilities in most manufacturing shop-floor environments are woefully inadequate," says Jason Chester, InfinityQS' director of channel programs. "What is surprising is that so many manufacturers agree with this sentiment, which begs the question why is this not being addressed?"

Chester goes on to warn "moribund" manufacturers that they are not going to be attractive workplaces for young professionals who are "digital natives". He says: "This will cause talent to leech out to other more progressive manufacturers and once this happens, reversal becomes ever more challenging and risks putting the manufacturer into an almost terminal decline.

Chester's advice is for manufacturers to understand what the barriers are and then take steps to overcoming them. He says this could include gaining executive sponsorship, putting the right skills and talent in place, developing a long-term roadmap, or procuring the right solutions.

IN BRIEF...

■ ICT service provider Getronics hopes its *Women in Technology* initiative will promote diversity. Getronics has put together a working group composed of role models within leadership to drive the initiative. It also plans to organise regional round tables to obtain input into strategy and identify talent, develop a coaching programme, emphasise women's successes, participate in external events, engage with universities as well as organisations that value women, and produce a *Women in Technology* strategy to 2020.

■ Splunk will work with computer-based testing specialist Pearson VUE to transform and deliver its global certification exam programmes. As part of a recently signed deal, Pearson will provide Splunk certification candidates access to its network of thousands of highly secure test centres in 180 countries around the world. Pearson says candidates will have the option to either attend a local test centre or take an online proctored exam at a date and time of their choice.

■ Learning Tree International has announced an online scheme for the *Certified Cloud Risk Management Professional*. Sponsored by the Mission Critical Institute (MCI), the five course programme certifies that Learning Tree community members have become cloud risk management job-ready. It is based on recommended industry standards and cloud/cyber security risk management best practices developed by the US Department of Commerce's National Institute of Standards and Technology. Participants receive online instruction and mentoring through a practitioner-developed cyber security curriculum, taught by expert instructors.

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