

networking

FIXED & WIRELESS NETWORKS FOR ENTERPRISE USERS

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UK IT professionals are 'not confident' in their current skillset

IT professionals in the UK are not learning fast enough to manage their environments and if the current workforce is to keep up with the pace of innovation, there will need to be some significant changes.

These were the findings from new research carried out by SolarWinds, a US company that develops software for businesses to help manage their networks, systems and information technology infrastructure.

The company's *IT Trends Report 2019: Skills for Tech Pros of Tomorrow* looked into the state of skills and career development for technology professionals and revealed that they have prioritised systems, infrastructure, security management and hybrid IT skills development in the past year.

When it came to the next three to five years, respondents said they were looking to develop

skills in areas like artificial intelligence (AI) and big data analytics, while considering career paths such as data science and coding.

However, without improvement in time and budget constraints, the majority of tech professionals surveyed (70 per cent) said they would be unable to confidently manage future innovations. This in turn puts businesses at risk of performance and competitive advantage losses, skills and career development for tech professionals therefore becomes a priority, the report said.

Meanwhile, 78 per cent of respondents revealed they simply lack the time to train for new skills.

Sascha Giese, head geek at SolarWinds told *Networking+* that in order "to truly capitalise" on the opportunities presented by emerging technologies - and ultimately remain competitive five years

from now - network managers must commit to the mind-set of a lifelong learner.

"They can do this by taking a disciplined, proactive approach to obtaining new skills and focusing on developing their careers,"

he said. "By starting small and setting aside manageable, realistic chunks of time play to focus on this - they'll be in a strong position to kick-start this kind of personal development."

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Some 70 per cent of professionals said they would be unable to confidently manage future innovations

Councils partner with US firm to guard against cyber-attacks

Orbis Partnership, a public sector alliance in the UK, has joined forces with US software company Splunk and is using its services to guard against cyber-attacks.

Formed in south-east England by East Sussex County Council, Surrey County Council and Brighton & Hove City Council, Orbis spans 550 sites and offers services such as finance, procurement and human resources to over 20,000 users.

It is using Splunk ES for early detection of security incidents in order to reduce costs and limit potential damage. When the WannaCry attack was carried out, the councils managed to quickly identify infected devices and removed them from the network before the ransomware worm could spread to other devices.

Orbis chose Splunk ES because it is flexible and offers a centralised view of its security, compliance and IT operational requirements. At the same time, the software solution gives each council ownership and control over its data.

"The Splunk platform fundamentally underpins Orbis' compliance strategy," said Orbis technical delivery manager Morgan

Rees. "By automating the collection, search, alerts and reporting of logs and machine data, it's become easier than ever to build a full audit trail. Splunk Enterprise Security provides us with both confidence and flexibility when handling the general public's personal data or interacting with other government bodies such as the Public Services Network and National Health Service."

Orbis is also using Splunk Enterprise to quickly detect and resolve IT faults, in addition to minimising downtime and disruption of crucial government services such as social care, waste and road management.

Splunk EMEA sales vice president Richard Timperlake said that with public sector finances coming under increasing pressure, government organisations demand cost effective solutions that benefit their constituents.

"The Orbis Partnership is a great example of how a single software platform can have widespread benefits across different parts of an organization," he said. "Not only are the councils now better protected, they have also reduced costs through tool consolidation."

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IT pros lacking confidence

Continued from page 1

Giese said for network professionals, skill development “would become more and more important” - as emerging technology, such as AI and machine learning become widely adopted by the industry.

“This boom in emerging tech has the propensity to significantly impact and affect personal careers among the professional community, so it’s important that they’re prepared,” he added. “2019 presents technology professionals with a huge opportunity to demonstrate and capitalise on the critical tie between skills development, business transformation, and career growth. After all, we have chosen this career path, as in IT there is always something new to discover and to learn. That’s the best part of it, isn’t it?”

Of the other key findings, nearly eight in 10 tech pros (78 per cent) said their day-to-day IT tasks extended into time earmarked for career development, with 33 per cent saying that always happens. ■



Sascha Giese, head geek at SolarWinds, says skill development “would become more and more important” - as emerging technology, such as AI and machine learning, becomes widely adopted

Cyber-attacks down but costing businesses more - DCMS report

New statistics published by the Department for Digital, Culture, Media and Sport (DCMS) have shown a reduction in the percentage of businesses suffering a cyber breach or attack in the last year.

It found that 32 per cent of businesses identified a cybersecurity attack in the last 12 months - down from 43 per cent the previous year and nearly a 25 per cent drop.

However, of those businesses that did suffer attacks, the typical median number of breaches rose from four in 2018 to six in 2019.

As a result, businesses and charities suffering cyber-attacks and breaches appeared to experience more attacks than in previous years. Where a breach resulted in a loss of data or assets, the average cost of a cyber-attack on a business went up by more than £1,000 since 2018 to £4,180.

Paolo Sartori, managing director at tech specialist TransWorldCom, said the survey may show that the number of cyber-attacks as a whole are down, but those companies and networks who are being targeted are facing breaches and attacks with an increasing frequency.

“It is imperative that network managers and IT executives across all industries learn from any mistakes made after their data system has been penetrated,” Sartori told *Networking+*.

“The key for all managers is to make sure that they provide a thorough education for all of their employees regarding data protection. A chain is only as strong as its weakest



Whilst the percentage of firms suffering cyber attacks has decreased, businesses and charities that had suffered cyber-attacks and breaches previously appeared to experience even more attacks in 2019

link and it only takes one employee to use a malware infested USB stick or to download an illegitimate attachment from a phishing email for a whole system to be breached.”

He added that businesses, including networks, often overlook updating their cyber security and data systems out of fear that there will be a decrease in productivity whilst systems are being renewed. “However, Sartori warned that productivity will be severely affected if there is a data breach or if a system is hacked.

“The 2019 Cyber Security Breaches Survey has shown that those networks and companies who are facing breaches are paying vast sums for it,” he added. “These sums could be hugely exacerbated if GDPR is also breached, the penalty for which currently stands at €20 million or four per cent of your company’s revenue. Not only is it good practice to ensure that your network’s security is up to date and efficient, but failing to do so could result in your business suffering huge financial losses.” ■

East Anglia sees launch of new cyber security social enterprise

A cyber security social enterprise has been launched across East Anglia Suffolk with the sole aim of protecting the region from attacks.

The Norfolk Suffolk Cyber Security Cluster was formed by David Higgins and Darren Chapman, under the umbrella of the UK Cyber Security Forum.

The firm was formed to make enterprises in the eastern region more

resilient to cyber hacks, as well as teaching all business owners and managers why having water-tight security is so important.

Higgins works for north Norfolk-based 4ITSec, which provides cyber security services for SMEs based in Norfolk, Suffolk and London. Those invited to join the cluster are sole traders or SMEs actively working within IT. ■

Manx Telecom acquires Synapse

Manx Telecom, the Isle of Man-based communications solutions provider has agreed to buy business IT services firms Synapse Consulting and Synapse Consultants for an undisclosed sum.

Synapse 360 provides B2B managed services in the UK and the Isle of Man and will bring its capabilities in traditional telecommunications, data centre operations and network-oriented services to the deal.

As a result of the deal, the four existing

Synapse 360 directors, including managing director Colin Sheard, will continue in their positions. “Synapse 360 is an excellent fit with Manx Telecom,” said Manx Telecom chief executive officer Gary Lamb. “We have long viewed managed services as a potential growth area for the business and Colin and his team’s success over the last 20 years have reinforced us in this view, and confirmed us in the intention to make this attractive bolt-on acquisition.” ■

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networkingplus is published monthly by:
Kadium Ltd, Unit 2, 1 Annett Road,
Walton-on-Thames, Surrey, KT12 2JR
Tel: +44 (0) 1932 886 537
www.networkingplus.co.uk

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

Printed in England by
The Magazine Printing Company
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Type 3 Surge Protection
and the 18th edition

Some 35 per cent of all surges are caused by lightning strikes, utility grid switching or heavy motor loads from nearby industry or even electrical accidents. The remaining 65 per cent majority are therefore generated within our homes or work places. To provide protection against such events the recently published 18th edition of the Wiring Regulations (BS 7671) has stipulated that surge protection shall be provided on circuits in commercial and industrial installations. Consequently installing Surge Protection Devices (SPDs) in areas such as data centres has now become mandatory even if it has been the common practice.

However, fitting SPDs in the sub-distribution board or even relying on those within the UPS is not necessarily job done. Surges can be introduced into the circuits by any number of small motors or switching devices or, as the standard acknowledges, if the physical distance from the SPD is greater than 10m, oscillations can lead to a voltage of up to twice the SPD's voltage protection level. What data centre doesn't have 10m of cable run from the nearest SPD?

The standard continues, "consideration shall be given to the provision of additional coordinated SPDs, closer to the equipment, or the selection of SPDs with a lower voltage protection level".

Therefore, a more localised type 3 protection perhaps supplied within the rack mounted Power Distribution Unit (PDU) is therefore required if damage is to be avoided to all our electronic based A.V. products, modems and other network equipment.

Any increase in the voltage above the equipment's normal operating voltage can cause damage to electronic components or printed circuit boards contained within it. Repeated, albeit, smaller surges can ultimately cause the integrity of these parts to breakdown and the first signs you may have is that your printer/scanner, PC or worse still the server stops working.

Spikes and surges are not the only risk unfortunately that needs to be considered if an appropriate level of protection is to be provided. Electromagnetic interference (EMI) is sometimes caused by environmental conditions such as electrical storms and solar radiation but more commonly it is emitted from another electrical device or within the electrical system. It is therefore often necessary to fit an EMI filter to screen out the interference often emitted from electronic power supplies as they convert input voltage to DC at high frequencies; such as from LED lighting, computers, motor drives and battery chargers.

Surge and filter protection does cost and whilst it may be passively doing its job, it's hard to justify the initial investment. As with any insurance cover however, you may be glad to have it as failure to protect may cost far more!

Verizon offers integrated connectivity

UK enterprises can now integrate with a Microsoft unified communications platform, thanks to a new collaboration service from Verizon Enterprise Solutions.

The collaboration service combines direct routing and SIP trunk connectivity and helps Verizon's network customers embed their voice infrastructures in the Microsoft Teams platform. It is powered by Verizon's session border control as a service (SBCaaS), the virtualised, the cloud-based service that reduces the need for organisations to invest in additional hardware.

Microsoft Teams is a unified communications platform that combines workplace chat, video meetings, file storage (including collaboration on files) and

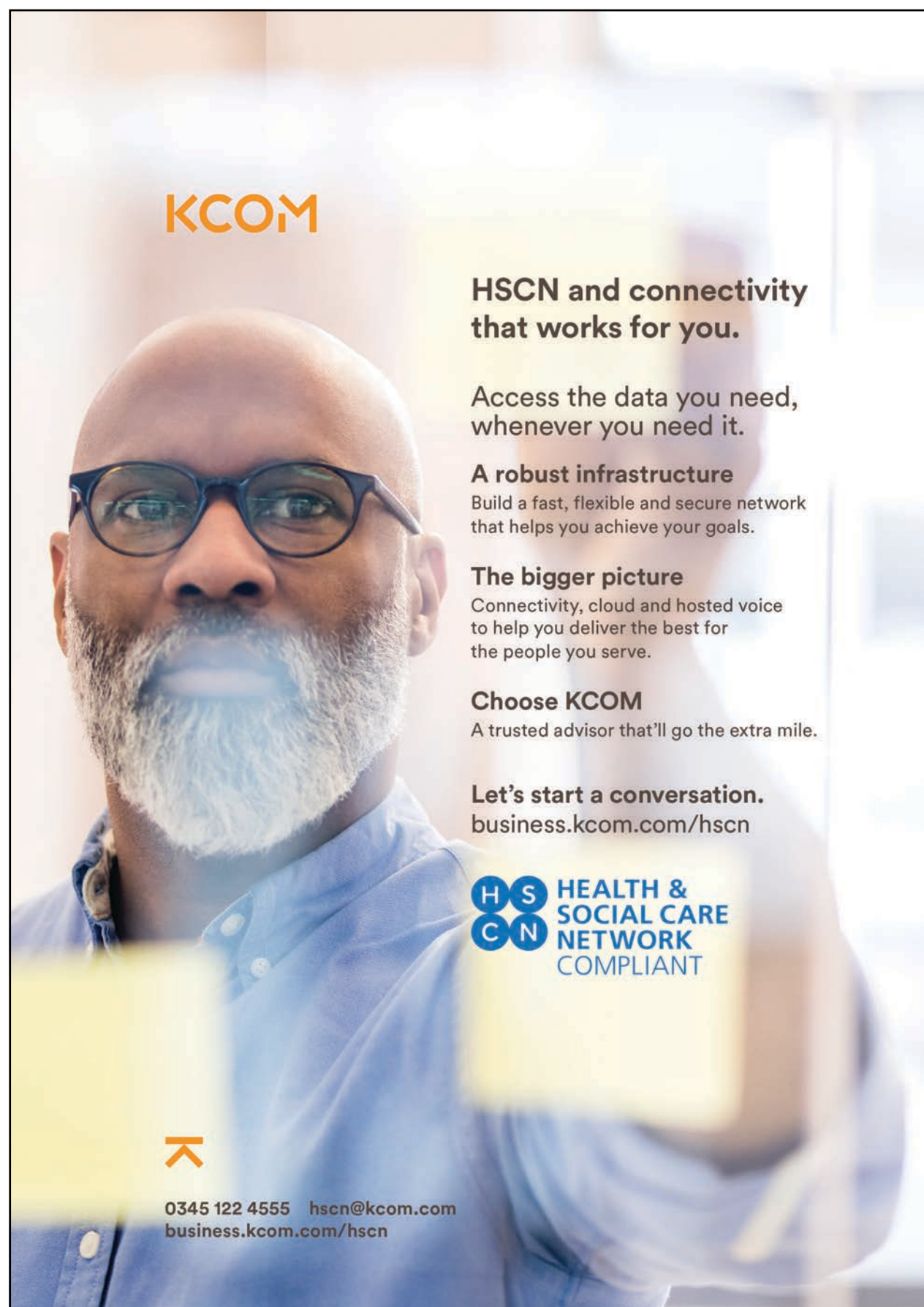
application integration. The service is built on Office365 Groups subscription office productivity suite and features extensions that can integrate with non-Microsoft products. The company recently announced that its Teams platform is now being used by 500,000 organisations worldwide including 91 companies in the Fortune 100.

Francoise Boardman, senior product manager, global advanced VoIP services at Verizon told *Networking+* that the growth of workplace collaborations platforms has exploded in the last two years, particularly in countries such as the UK where employees often sit in disparate locations but need to be in constant communication. "Additionally, implementing any type



Francoise Boardman,
senior product
manager, global
advanced VoIP
services at Verizon

of unified communications solutions can often be a complex task due to the involvement of multiple vendors," she said. "So, being able to integrate Verizon's global IP Trunking capability with a Microsoft Teams environment is a logical extension and ensures that customers have a reliable voice-calling capability." ■



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UK government spends over £1bn on cloud

The UK government is spending more than £1bn each year as it undergoes its own cloud transition, according to figures from industry experts. Public sector bodies are expected to have spent as much as £1.3bn on cloud services before the fiscal year ended in April. Government figures for the 2017/2018 period revealed that around £1.1bn was spent on cloud services, for services such as hosting, software and support. The figure is more than double the £421m spent in 2014/2015. The biggest spenders were the Home Office and the Department for Work and Pensions (DWP), which injected the most cash into cloud technology as part of a strategy to migrate more of their systems, such as the universal credit platform, to the cloud. ■

Businesses adopt AI to monitor staff

UK business owners have adopted artificial intelligence to examine staff behaviour minute-to-minute by collecting data on who emails whom and when, who accesses and edits files and who meets whom and when. The actions of 130,000 people in the UK and abroad are being monitored in real time by the Isaak system, which ranks staff members' attributes. Designed by a London company called Status Today, early adopters include five law firms, a training company called Smarter Not Harder and a London estate agency, JBrown. Workers do not automatically have a right to see the data, which is controlled by the employer. Insurer Hiscox and IT giant Cisco have used the system for short-term analysis rather than continuous surveillance. ■

New partnership brings safe Wi-Fi tags to IIoT

Rajant, the provider of kinetic mesh wireless networks, has partnered with a UK "company dedicated to making hazardous areas safer", to bring safe Wi-Fi tags to IIoT industries. The combination of Extronics' Wi-Fi tags for personnel and assets tracking with Rajant's latest firmware, 11.19.1, means Extronics' AeroScout tags are now intrinsically safe and certified for use in hazardous work areas. The AeroScout Wi-Fi-based active RFID tags enable the wireless network infrastructure to track the location and condition of both valuable assets and people. The small battery-powered, rugged, programmable tags send short 802.11 messages at a predefined interval. ■

University of St Andrews awarded £1.5m for new SafePod Network

The University of St Andrews has received £1.5m from the Economic and Social Research Council (ESRC) to create and manage a new SafePod Network (SPN).

Designed and developed at the Scottish university, a SafePod replicates a traditional safe setting and includes security features such as a door control access system, CCTV camera and secure storage areas for IT equipment.

The idea is to improve public benefit research through the provision of micro safe settings (known as SafePods), which will support, strengthen and widen remote access to research datasets held by data centres spanning the length and breadth of the UK.

No datasets are kept within a SafePod, so instead a secure connection links it to a data centre for researchers to access, view and analyse their project datasets. A SafePod is compact in size so it can be easily placed in organisations where space is an issue.

Darren Lightfoot, SPN manager at the University of St Andrews, said the major benefit of a SafePod to a researcher is that they will be able to have local remote

A SafePod is compact allowing easy installation where space is an issue



access to project datasets, without the need for long distance travel to a dedicated safe setting provided by a data centre.

"For a participating data centre, SPN provides a low-cost secure platform to widen access to their datasets across the UK for research purposes," Lightfoot said. "As a SafePod design and policies are standardised, a single accreditation for use of a SafePod by a data centre is all that is required for them to accredit the full network of SafePods."

Eligible organisations can apply for a SafePod and to be part of the SafePod Network. For further details visit the ESRC website – www.esrc.ukri.org. ■

Hackers target council websites in Assange freedom campaign

Hackers claimed to have taken two council websites offline as part of a campaign to free WikiLeaks founder Julian Assange. The websites for Barnsley Council and Bedale Town Council were targeted on April 16th.

Barnsley Council said its site was restored by 11:30am and that the National Cyber Security Centre had been alerted. Bedale Council said it was unaware of a website issue. Tweets from hacking groups the Philippine Cyber Eagles and Anonymous Espana claimed responsibility.

Assange had been taking refuge in the Ecuadorian embassy in London until his arrest seven-years-later on April 11th.

Barnsley Council said it had experienced a Distributed Denial of Service (DDOS), which it explained was where a hacker overwhelms a website making it unusable for regular users.

"Having initially believed the issue was not related to a cyber-attack, while investigating the issue it became clear that the amount of traffic hitting the council website was massively above normal levels," a spokesman said. "No customer data has been lost, stolen or accessed by the attack against the council's website and the council remained fully in control of the situation."

A tweet from the group CyberGhost404, which linked to the crashed Barnsley Council website, said: "Free Assange or chaos is coming for you!"

That account claimed it belonged to the founder of the Philippine Cyber Eagles.

A tweet from the account Anonymous Espana included an image that suggested the group had access to the council's files and was threatening to leak them. ■

Over 22 per cent of charities breached or attacked last year

New figures from the Department for Digital, Culture, Media and Sport (DCMS) show that 22 per cent of charities were subject to a breach or attack in 2018.

Larger charities, those with an income of more than £500,000 a year, were among the most common targets, with over half (52 per cent) reporting breaches or attacks over the past year. In stark contrast, 32 per cent of businesses and 61 per cent of large businesses were breached over the same period.

The most common form of attacks involved phishing, which was cited by 81 per cent of charities that had been breached. Meanwhile, 20 per cent of breached charities said they had been targeted by criminals impersonating an organisation in emails or online and 18 per cent said they had been targeted by viruses, spyware or malware, as well as ransomware attacks.

Kate Sinnott, head of charity engagement at the National Cyber Security Centre, said: "We know that cyber security breaches can be costly and disruptive for charities, and this year's report backs that up. The average cost of all breaches or attacks identified in the last 12 months by a charity is now £9,470. However, the costs of a breach vary, with organisations quoting figures between £300 to £100,000 depending on the severity. At the top end, this amount could be crippling for some charities."

Sinnott added that phishing remained the most common form of attack on the charity sector, with 81 per cent of those who identified an attack or breach listing fraudulent emails as the cause. "Technical measures are important in stopping these attacks but the strongest link remains staff, trustees and volunteers," she said. "It's vital to help them to understand their critical role in protecting the organisation and give them the information on how to report a phishing email."

However, it was not all negative news. GDPR was found to have helped organisations to improve their cyber awareness. In addition, more than a third of charities (36 per cent) said they had made changes to their cyber security policies or processes as a result of GDPR and 47 per cent sought external advice on cyber security over the year.

"This is very positive news but we shouldn't be complacent," Sinnott added. "There are still many charities who are yet to take action and, even for those that have, they still need to keep up to date with advice as the cyber crime threat to charities continues to evolve." ■

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Majority of enterprise employees access cloud-based applications via mobile devices

A report by cloud security specialist Zscaler has found that 72 per cent of organisations said the majority of their employees accessed applications and data in the cloud or the data centre on their mobile devices.

The Digital Transformation Report EMEA 2019 also said 29 per cent of companies claimed that number to be more than 75 per cent across the UK, Germany, France, and the Benelux region.

This high rate of mobility coincides with the top drivers for digital transformation initiatives, which include enabling greater flexibility for employees (37 per cent) and implementing more efficient processes (38 per cent).

Security topped the list across all four regions, with 80 per cent of enterprises harbouring security concerns about the way in which employees remotely access data and applications, with the primary focus on the use of unsecured networks (34 per cent) and unmanaged devices (21 per cent) as well as blanket access to the entire corporate network (20 per cent).

The report further found that enterprises embarking on digital transformation initiatives are beginning to recognise that the traditional way of providing remote access connectivity to their applications residing in the cloud or corporate networks “are riddled” with security risks.

“Digital transformation is a powerful business enabler with many potential

benefits—from added flexibility for employees to cost and efficiency savings—and it must be a process involving input from all aspects of the business, not just IT,” said Stan Lowe, global CISO at Zscaler. “With applications moving to the cloud, and users connecting from everywhere, the perimeter is long gone. It’s therefore time to decouple security from the network and use policies that are enforced anywhere applications reside and everywhere users connect. Ultimately, as applications move to the cloud, security needs to move there too.”

The report also found that digital transformation is predominantly an IT decision, however business decision-makers are increasingly driving this initiative, such as the chief information officer (54 per cent) and chief digital officer (47 per cent). Furthermore, 18 per cent claimed their chief executive officers are pushing for and owning digital transformation. The main reasons for embarking on a digital transformation journey were increased flexibility for employees (37 per cent), a new business strategy to focus on core competencies (36 per cent), improved profit margins (36 per cent) and increased cost savings (35 per cent).

“Companies have to consider the effect that application transformation has on their network performance, bandwidth consumption and the latency added by hub-

and-spoke architectures from the outset,” Lowe added. “Moving applications to the cloud needs to be considered in-line with new network infrastructure and security

requirements. The new imperative is direct-to-internet access with security policies that protect users, regardless of their location or chosen device.” ■



The report found that 72 per cent of firms said the majority of their employees accessed applications and data in the cloud or the data centre via their mobile device

DfE makes cloud recommendation

Education providers in England have been encouraged to consider moving their IT estate into the cloud by the Department for Education (DfE).

The recommendation came in the form of a new strategy paper for education technology.

“We recommend that all education providers actively consider and evaluate the benefits of moving to a cloud-based approach for their IT system (moving away from relying solely on ‘on-site’ servers),” the department said. “Cloud-based systems

are usually more secure, cheaper to run and enable more flexible working.”

In addition to the new strategy, the government also published new guidance to schools, colleges, universities and other education providers migrate to the cloud and address other challenges in implementing new technology. It also highlighted the existing “G-Cloud” framework as a mechanism through which education providers can procure cloud-based solutions. ■

US cloud provider Jamf eases enterprise Brexit fears

US tech company Jamf has introduced its cloud service for Apple management to British servers, so UK enterprises can continue to use it seamlessly post Brexit.

Jamf Premium Cloud on a UK server will help businesses operating in finance, education and other highly-regulated industries, ensure their data is stored securely and firmly within the region.

The service further allows businesses to manage and grant access to IP and network addresses and allow certain users to log into the server without interruption.

Minneapolis-based Jamf’s premium cloud product also allows businesses to white label their own server address, making sure it fits online with company branding and safe in the knowledge they are using the correct server.

The strategic move by Jamf will see the company better positioned to tailor its products and services to a UK audience. Previously, its only European facility was located in Germany. It has additional servers in the US, Japan and Australia.

“We are excited to bring Jamf Premium Cloud to the UK as it will bring flexibility

to our customers here,” said Mark Ollila, director, cloud operations at Jamf. “Jamf users will be able to reap the benefits of the cloud securely, as well as experience additional layers of security and customised branding. As the UK prepares to part ways with the EU, the cloud will be an essential tool for British businesses to compete globally, which is why we have launched Jamf Premium Cloud tailored for those in the UK.” ■



Jamf Premium Cloud will ensure the data of businesses that operate in finance, education and other highly-regulated industries is stored securely and firmly within the region

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New livestock centre to be built as part of IoT strategy

A partnership of universities and colleges in northern England has received the green light from the Department of Education to develop the Yorkshire and Humber Institute of Technology (IoT), which will also lead to the creation of a £1.7 million livestock centre.

Askham Bryan College in York is one of nine education providers benefiting from £10m of capital funding from the DoE and the new beef centre will showcase precision livestock farming and inform the industry practices of tomorrow. It is anticipated that ground works will begin within the next few months.

"This is tremendous news not just for Askham Bryan, but for the future of agriculture in Yorkshire and beyond," said Catherine Dixon, chief executive. "Farming is a highly technical and exciting industry and our young people will have a wonderful livestock centre with cutting edge technology to ensure that they are at the forefront of industry innovation."

Dixon said the funding would "greatly assist" the college to further develop highly skilled, technically adept students and complements its most recent work creating the digital farm for our dairy cattle and its agri-business centre.

"As an educational training centre, the importance of animal health and welfare is at the heart of our teaching as we showcase best practice to the next generation of Britain's farmers and industry leaders," she added.

The college has 5,000 students with around 2,000 using the York campus' Westfield Farm as part of their studies in agriculture, animal management and agricultural engineering. It is also an important centre for training apprentices.

In addition to the purpose-built livestock centre created as a beef finishing and calf rearing facility, the investment will be used to refurbish the college's existing beef unit, plus an additional classroom and car park. Industry trials are also expected to be held.



The new livestock centre will showcase precision livestock farming and inform the industry practices of tomorrow

Precision farming market to be worth over £9 billion by 2025

The precision farming market size is tipped to exceed £9 billion by 2025, according to consultancy and research house Global Market Insights.

It is expected to show significant growth over the next six years due to huge support from governments for the adoption of advanced technologies such as AI and the Internet of Things.

These technologies help farmers to manage their resources and give access to real-time information through their smartphones, while offering mobility and ease of use.

"Various government initiatives and

subsidies, along with investments by private entities in the agriculture sector to improve farm productivity will result in the precision farming market growth," the report said.

The UK is a case in point. In June 2018, the University of Leeds launched the Smart Farms initiative to encourage farmers to adopt advanced precision farming technologies to improve the productivity of the sector.

It sees the university works with farmers and businesses to develop new solutions. The initiative also followed the UK government's Industrial Strategy, which focuses developing the sector. The UK government provided around £82 million to researchers and industrialists to jointly work for bringing innovations to the industry.



Advanced technologies such as AI and the Internet of Things are helping farmers manage their resources and give access to real-time information through their smartphone



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Class act: learning takes a leap forward thanks to new IT

Schools and universities are investing to aid the classroom experience for both students and teachers – with no chalk and blackboard in sight

Now they can learn anywhere

Godolphin School, an independent girls' school in Salisbury, was founded in 1726 and has 480 pupils aged three-18, half of whom are boarders.

Former pupils include the writers Jilly Cooper and Dorothy L. Sayers and the Dragon's Den panellist Deborah Meaden.

The school's network needed updating to improve performance, and enough bandwidth for consistent coverage across the estate, particularly as it had introduced bring your own device (BYOD).

Godolphin chose its long-term IT supplier, Medhurst Communications, founded in 1999 and headed by director

Iain Baynes, to install a new network.

Medhurst used products from Aruba Networks, since 2015 a subsidiary of Hewlett Packard Enterprise.

They comprise a 10Gb/s network based on an Aruba 5412R switch, 16 2920F switches at the edge, and 138 high-density access points (APs) fitted inside and outdoors. The APs are managed by a 7205 mobility controller.

Network access policies are now defined and enforced through Aruba ClearPass Policy Manager and both onboard and guest modules are in use to allow BYOD and guest access.

Godolphin pupils can now use their favourite devices and connect anywhere on campus. It means, says Aruba, that they can collaborate on projects using video, or FaceTime, or chat – allowing them to study more effectively outside of the classroom. And, with the ability to connect to school resources anywhere anytime, they are able to learn when they want, where they want.

New initiatives include interactive classroom projectors to allow teachers and students to collaborate more effectively.

Wi-Fi coverage around the sports pitches

and seamless roaming around the entire campus is now possible. Sudden spikes in network usage can be accommodated, enabling the school to support activities such as open days or literature festivals. Displaying information around the school on digital signage is also possible.

It has also moved to Microsoft Office 365 to put more resources in the cloud. ClearPass Policy Manager controls access to the network, including who sees what and what information is restricted.

Flying high: why university moved to the cloud

Built on a former air force base, Cranfield University is the only university in Europe with its own airport and air fleet. As well as the Bedfordshire campus, it has a second site in Shrivenham, Oxfordshire.

It is the UK's only exclusively postgraduate university and specialises in education and research, particularly in technology and management.

Cranfield's head of IT infrastructure, Edward Poll, oversees a team of 13 supporting 1,600 staff members and 4,000 students

He said the university decided its future was the cloud: "Previously, we were replicating to a third-party host. If our two on-site data centres were completely down, we had no easy way to fully restore services from our third-party provider."

"We are making a push to cloud backup not only because it's cheaper ...but it replaces costly hardware and provides greater resilience. "Essentially, we want to drastically cut our unprepared downtime and build future cloud infrastructure for disaster recovery."

He reports that previously it would have required building an entirely different infrastructure, a lengthy process which would mean greater costs, complex management, and slower recovery.

Cranfield turned to a cloud data management company called Rubrik which delivered an all-in-one solution for data archival and disaster recovery to the cloud which now protects its legacy, virtual and cloud workloads including Microsoft SQL, Oracle and VMware.

Mr Poll said: "It seamlessly integrated with Azure and its Google-like cloud search means we can quickly find and recover our data in a matter of minutes. This is something that could previously take hours, sometimes even days."

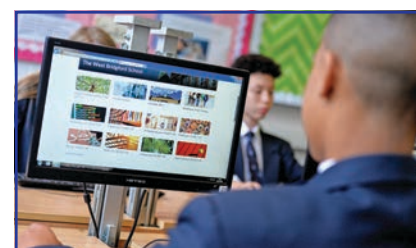
Now, says Mr Poll, a CloudOn app allows rapid recovery in the event of a disaster: "If our on-premise site is down, we can quickly convert our archived VMs into cloud instances, and launch those apps on-

demand in Azure." Backup is also faster.

As well as reducing the college's data centre footprint from 16U to 4U, the college had saved nearly 80 per cent in power and cooling, plus management time saving of more than 80 per cent.

Mr Poll gave another benefit: "As we grow, we can choose from any public and private cloud provider and easily move workloads from cloud to cloud."

Upgrade welcomed by teachers and students



West Bridgford School, a co-educational academy in Nottinghamshire has 1,650 students aged 11-18 and 91 staff.

It was formerly a grammar school, then a secondary, before achieving academy status in March 2011.

Among its former students are the historian Lucy Worsley, actress and barrister Justine Thornton and TV journalist Owen Thomas.

It had used an open source learning management system and a separate mark book and grading platform for many years.

However, the school reports that they were high maintenance, too rigid, and required too many clicks and logins for access, which led to very low usage. It said that just 10 per cent of students were logging in a few times a week. In addition, it needed a product that would engage and inspire parents, helping to foster a strong school-to-home relationship.

It turned to a company called D2L and its Brightspace product which can be used by students and teachers on any device, including smartphones, tablets and desktop PCs.

The school's deputy head teacher, Mark Deans, said: "The students of today have every part of their life immersed in the most up-to-date technology, so it is only natural that their school life would reflect this."

"Students will very quickly lose interest with slow, high-maintenance platforms that appear out of date; therefore, we needed a modern platform that would inspire both students and teachers, and would be flexible enough to meet our specific requirements as opposed to making us conform to a rigid structure."

"...usually we have to push these things through, but the staff are driving the implementation themselves. The teachers have particularly been enjoying the grading app."

"They can mark students' work onscreen with written and verbal feedback via voice recording, and can even see how the students have responded to the feedback, saving them time and enabling them to engage with a generation that often feels more comfortable with technology...and it is genuinely exciting for us as an educational institution."



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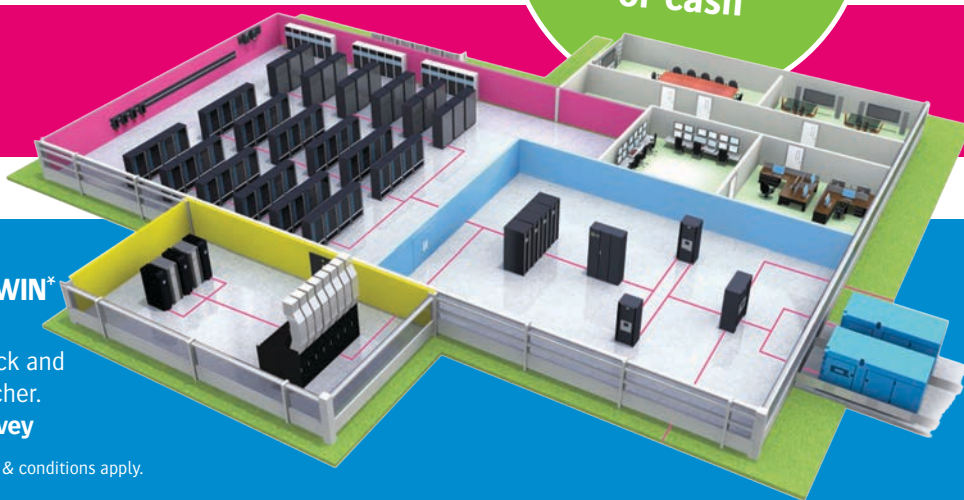
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Big is the new norm

Big data sets have become everyday workloads for many data centres and resource-challenged network managers must gain new skills to go with the flow, writes JAMES HAYES

Big data's entrée into business computing was its promise that the analysis of very large volumes of data would deliver actionable insights from which quantifiable business value could be derived. It's taken some time for that to happen, but many enterprises the world over now believe that big data analytics will deliver proven return on investment.

Now big data's remit has expanded. Its potential is being applied to a broader range of data sets, from marketing and CRM to risk management and product development. Furthermore, big data tools are now being applied to real-time operations across applications like cyber security monitoring and customer interactions, air traffic control – and even data centre traffic control.

Cisco's latest Global Cloud Index confirms that big data is a key driver of overall growth in stored data (see *Networking+*, March 2018 issue). Big data will reach 403Eb by 2021, up from 51Eb in 2016. Big data alone will represent 30 per cent of data stored in data centres by 2021 (up from 18 per cent in 2016). This ramp-up also reflects the fact that big data is getting bigger. Cisco defines 'big data' as data deployed in a distributed processing

and storage environment (such as Apache Hadoop). However, Cisco notes that big data has also become a significant driver of traffic within data centres. While much of big data traffic is 'rack-local', enough of it exits the rack that big data will account for 20 per cent of all traffic within data centres by 2021 (up from 12 per cent in 2016).

Tidings of cheer for big data solutions vendors, maybe, but news that also brings profound challenges for the data centres tasked with shouldering this substantial workload expansion – or, more specifically, the IT practitioners tasked with the effective management of those facilities.

"Enterprises are under unprecedented pressures to manage this data in an effective manner," says Alex Henthorn-Iwane, VP product strategy at ThousandEyes. "Given the data volumes involved, this is not always possible, and a 2018 survey [by Alteryx] estimated that IT inefficiencies cost European enterprises €49m a year." IT architectures focused on big data are extremely complex, Henthorn-Iwane adds, so companies "cannot rely on mere assumptions" when they design them.

"Big data workloads are overwhelming network management teams – network

speeds, data volumes and business application numbers are all increasing, so network and security analytics tools are reaching their capacity faster than expected," agrees Marc Sollars, CTO at Teneo. "Such an information overload is creating a 'monster' of escalating costs, slower application performance, and less

efficient security controls. And a lack of visibility of critical business applications as they are moved into different virtual and cloud environments also makes it harder for IT teams to optimise and secure them."

With the increased ability to analyse the volume of data now available to assess business performance and/or consumer interaction, the network manager's role has shifted significantly, says Kevin Drinkall, EMEA wireless & cloud market development manager at Zyxel. "The challenges involved with being a network manager no longer just involve looking after a network," he explains, "but also ensuring data accessibility is a given across an organisation efficiently and securely."



"Enterprises are under unprecedented pressures to manage this data in an effective manner."

*Alex Henthorn-Iwane,
VP product strategy,
ThousandEyes*



“Network speeds, data volumes and business application numbers are all increasing, so network and security analytics tools are reaching their capacity faster than expected.”

*Marc Sollars,
CTO,
Teneo*

pinpoint areas where transmission is being delayed or disrupted, and suggest ways to optimise data transmission. Indeed, managing the network here involves understanding how distributed computing implementations work as a whole, agrees Callaghan: “For example, is there a master node that is in control, or is it a full masterless deployment?” (For big data, by the way, masterless systems should be preferred, Callaghan adds.)

“Data-driven networking” is a buzzterm that sometimes emerges when the topics of big data and networking are married. The underlying concept is that analysis of big volumes of real-time network data can be used to optimise the mechanisms for network packet forwarding: it’s like applying big data analytics to network data traffic, and then seeing what the results reveal about how network configuration could be tuned to improve performance, etc. This is an advanced approach to what network managers have been doing for years, although use of sophisticated analytics tools can mean upskilling for network specialists involved.

“Much has been written about data-driven networking,” says Walker. “Without data, organisations cannot become digital. All digitally-transformed enterprises must become ‘data-driven’ in every aspect of their operations in order to compete and survive as part of the larger data ecosystem. Organisations have realised

that data is an asset that can be monetised – therefore, they need to optimise network performance to cope with additional devices, Operating Systems, workloads and processing requirement so that data from a multitude of sources can be integrated, augmented and served in the form of real-time intelligent insights.”

The combination of IT knowhow and capability with business context and requirement means the future of network management is key to unlocking the potential of data to help drive the future of enterprises, Walker believes.

“The concept of the ‘data-driven network’ will have real resonance for the future of network management, simply because everything we do is about traffic management within a network,” explains Drinkall. “Whether that’s how much traffic is passing through a switch, or how much traffic is going over the wireless – it is now extremely relevant for how organisations manage their networks.”

For Giese, network managers grappling with big data should understand that it is another form of the new norm: “Intelligent, automated networks are 100 per cent the future of our industry. Data-driven networking uses automation to apply big data analysis to existing, real-time network data to optimise network performance in the future. The days when a network admin would be stuck swivelling from monitor to monitor to guarantee performance, or wasting time manually configuring storage QOS, are gone.” The reality is, “many of the metrics that once took a team of IT managers to keep tabs on are now easily monitored from a single dashboard”, he thinks.

Automation is freedom

Meanwhile, the concept of the data-driven network does have “real resonance for the future of network management”, insists Walker at Information Builders. “The Internet of Things, Industry 4.0, Machine Learning (ML) and blockchain – all are technologies utterly dependent

on reliable data capture, storage, processing, transmission and access.” Data consumption is becoming a fundamental part of every industry, from manufacturing to modern healthcare: “The key aspect for network managers is to ensure that data can be accessed,” says Walker.

“We are seeing the next evolution of this shift as those monitoring solutions leverage automation and ML to predict anomalies before they occur and ensure



“The challenges involved with being a network manager no longer just involve looking after a network.”

*Kevin Drinkall,
EMEA wireless & cloud market
development manager,
Zyxel*

efficiency,” says Giese. “These new capabilities free-up IT teams, faced with shrinking budgets and increasingly fewer resources, so they have more time to address strategic business priorities.”

So, despite the challenges big data brings, it is important for network

Distributed visibility

“When techies think of big data, they tend to think of those three Vs: volume, variety, and velocity – and [next they think of] the strain [big data workloads] put on legacy, fixed architectures,” says Sascha Giese, head geek at SolarWinds. “The most significant attribute is big data’s ability to break larger jobs into lots of smaller ones, distributing resources to work in parallel on a single task. As a result, IT managers should adopt a nuanced approach when it comes to managing these distributed networks.”

Senior solutions engineer at DataStax, Patrick Callaghan, points out that big data “comes in a lot of shapes and sizes, so different implementations can have different impact on your applications and on enterprise networks. For large-scale applications, the volume of traffic will be high and continuous, so you will have to have the scale of network to cope. For many of these applications, you should be looking at distributed deployments – so running across multiple services and locations for both availability and resiliency – and this can include running across hybrid or multi-cloud environments, too.”

Monitoring is essential, insists Giese. “Big data applications are sizeable, causing huge spikes in traffic, which can cause congestion leading to queuing delays, packet loss, and retransmissions. And each of those applications – possibly sitting in different partitions – will vary,” he says. “Some might be particularly bandwidth-heavy, while others might be latency-sensitive. As IT is increasingly faced with big data workloads, and networks become more distributed, it’s vital that network managers have full, granular visibility of the entire network if they are to guarantee performance and scale.”

The primary tool to bring that visibility is analytics, Drinkall says: “As big data evolves, organisations increasingly want and need greater data analytics. Network managers can address these challenges by expanding their knowledge into database infrastructure and storage solutions. They must up their game in skillsets, not just in terms of looking after networks, but in terms of analytics and business intelligence.” It might seem like so much extra graft and longer hours at labour over a hot workstation (and it is), but such IT skills acquisition can result in gains for the IT professionals involved.

Data drives analytics

According to Peter Walker, VP EMEA (north) at Information Builders, big data analytics now “drives the introduction of infrastructure network analytics platforms”. These examine the flow of data across the network in order to monitor the ‘health’ of the network,



Now big data’s remit has expanded. Its potential is being applied to a broader range of data sets, from marketing and CRM to risk management and product development PHOTO CREDIT: THOUSANDEYES



“For large-scale applications, the volume of traffic will be high and continuous, so you will have to have the scale of network to cope.”

*Patrick Callaghan,
Senior solutions engineer,
DataStax*

managers who find themselves in its path to remember that the same technology can be deployed in the service of network management itself, says Sollars. “Big data analytics can drive network and security analytics performance improvements,” he says. “Enterprise IT teams are starting to use discovery sessions with external networking specialists to simplify their network and security architectures. This approach finds ways to route the right traffic to the right network and security analytics tools at the right time.”

Sollars adds: “This, in turn, delivers visibility of network performance and security threats – and accelerates threat detection and response. It also makes networks more efficient and economical to run. These discovery sessions are most

effective when network and security teams are equally represented.”

“Big data provides a great understanding of the pressure the network is under and its impact upon the user experience,” agrees Drinkall. “We can also understand [more about the] issues related to operating in an ‘always-on’ society. The data allows network management to add real value in evolving, scaling and adapting around user experience in this constantly-developing technical world.” Ultimately, analysis of big data can improve network management, Drinkall argues, as it reveals the stress points and allows network managers to become more fluid in their approach to how infrastructure is configured, maintained and evolved.

“Major changes are underway, which will have unprecedented impact on IT infrastructure in relation to Big Data,” predicts Henthorn-Iwane. “Enterprises are rapidly embracing new technologies that are underpinned by Artificial Intelligence (AI), particularly in an area referred to as AIOps.” (As defined by Technopedia, AIOps automates various aspects of IT and utilises the power of AI to create self-learning programs that help innovation in IT services. Note that it shares the same acronym as Algorithmic IT Operations, another digital transformation driver.) “AIOps can be applied to IT and big data issues and applications, with the goal of enhancing or replacing current operational processes.

Network professionals should be aware that increased adoption of automated management systems – AI-powered or not – are both inevitable and indispensable if data centres stand a chance of keeping on top of rapidly escalating data traffic. “I think that we are already seeing the change with IoT deployments – with so many connected devices coming on-line and sending data back, all that data has to go somewhere,” Callaghan observes. “These data sets scale-up rapidly, but the data growth itself should be predictable as well. Cloud environments can be a great fit for this use case – they can scale up in a managed way.”



Professionals should be conscious that in order for data centres to stand a chance of keeping on top of rapidly escalating data traffic, increased endorsement of automated management systems – AI-powered or not – is both inevitable and indispensable PHOTO CREDIT: INFORMATION BUILDERS

An additional surge change here will follow the rollout of 5G services. The speed of the new networks to support these services, the capacity for more devices, the bandwidth available – all of this will support more IoT use-cases, particularly those where real-time data is important. This will boost the volume of data being created; and data sets and streams that will have to be analysed will grow exponentially.

“By employing [AI-enabled] technology, companies hope to get a data-driven, granular insight into their overall digital experience and how to continually improve it,” Henthorn-Iwane says. “The rise of AI-automation may seem like a long way off, yet last year 61 per cent of firms surveyed in a report [Outlook on AI in the Enterprise 2018 by Narrative Science] reported that they had implemented AI technology in some way.” Forecaster Research and Markets expects the global AIOps market to grow at a CAGR of 28.08%, to reach a market

size of \$9.907bn by 2023.

“The more efficient the foundation of the network is, the easier it is to accommodate big data, [so] the IT estate will need to change in several ways to accommodate [escalating numbers of] Big Data sets,” says Drinkall. “There is a definite need for increased network bandwidth and connectivity to allow for this. At the same time it will be important for businesses to leverage advances in cloud technology – if businesses aren’t implementing it now, then they must start using it to leverage and manage big data [if for no other reason]. In doing so, it will allow for network managers to take advantage of emergent and advanced tools, such as those which use some form of AI.”

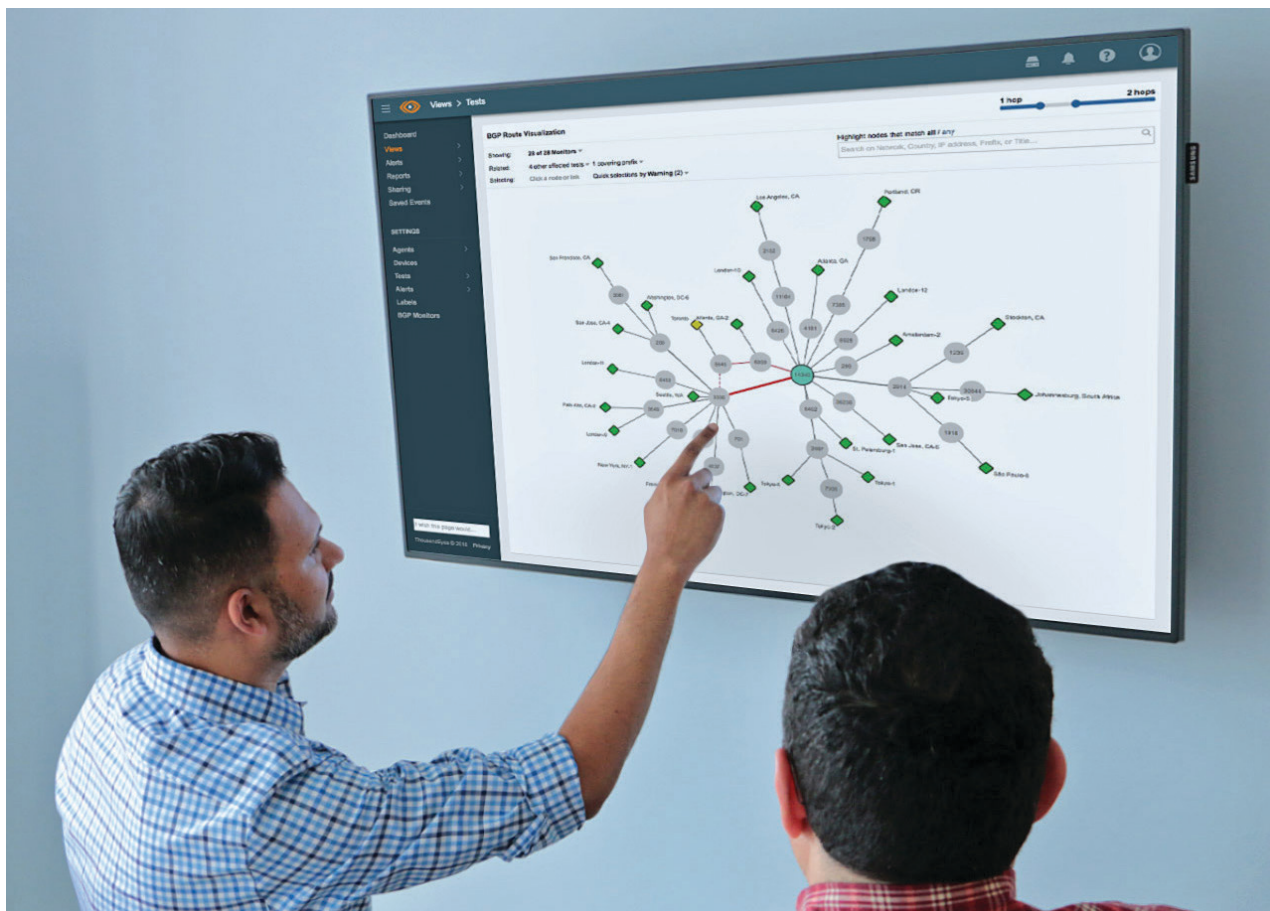
Big data = bigger skills?

Yet even though AI automation will enable data centre networks to better cope with big data workloads and increased IP traffic workflows, somebody still must manage the resource-saving tools. Network professionals who also possess competencies in automated system, AI, and data analytics are not commonly to be found. The traditional team structure has favoured specialist practitioners, although this is changing as CIOs look to build the kind of multidisciplinary IT teams many believe will be needed to cope with the demands of enterprise ICT in the 2020s.

“Traditional big data analytics functions, such as integrating data from multiple sources, ensuring data quality through master data management, as well as data analytics and data science, are now dovetailing into the network manager’s role,” says Walker. “The data revolution presents network managers with a golden opportunity to add to their skills by supporting enterprises in managing the volume, storage, processing and transmission of one of the modern enterprises greatest assets: data.”

“Securing and managing big data applications will require some specific skills, particularly around how to implement the infrastructure,” Callaghan says. “Deploying best practices – from securing deployments either on-premises or in the cloud, through to encryption of connections between sites and role-based access control – will be necessary for years to come.”

Callaghan adds: “Alongside the infrastructure side, looking into areas like analytics, search and graph, can provide new opportunities [for network managers]



Could this ‘demand’ represent a career opportunity for data centre stalwarts, as they extend their professional scope into the field of big data analytics or AI? PHOTO CREDIT: THOUSANDEYES

to expand their skills. The number of people with these skills is still low, so there is a lot of demand for people that can skill-up here and help deploy these technologies over time."

Could this 'demand' in fact represent somewhat of a career opportunity for data centre stalwarts – a way to extend their professional scope into the field of big data analytics or AI, say? Yes, it can, says Giese: "For network managers, that [career opportunity] could very well be an option. Dealing with Big Data requires upskilling – the new skills of which will broaden any IT pro's horizon. Having a sound understanding and knowledge of data handling combined with traditional network engineering is a solid foundation for all-rounder, generalist roles like IT project management and can even help on the path to a CIO position, if that IT professional so wishes."



"All digitally-transformed enterprises must become 'data-driven' in every aspect of their operations in order to compete and survive as part of the larger data ecosystem."

*Peter Walker,
VP EMEA (north),
Information Builders*

They should certainly be mindful of the fact that the Tech Cities Job Watch from Experis reports demand for big data professionals increased 78 per cent between Q1/2017 and Q1/2018

(see Networking+, June 2018 issue). Its study for Q1/2018 reveals that these specialists command the highest salary of £67,464 compared to the four other ICT disciplines the report tracks (cloud, security, mobile and web development).

Walker suspects that even if network managers do not actively pursue this career direction, it will pursue them. "I believe that the role of network managers will naturally evolve into the areas of data management, data science and analytics – in fact, this evolution has already started," he reports. "Connecting structured and unstructured data together, having a view on all data from the edge – i.e., sensor data – to operational data, and being able to provide business and IT context to this data, in a continuous stream, gives network managers a strong advantage within current and future digital enterprises." ■

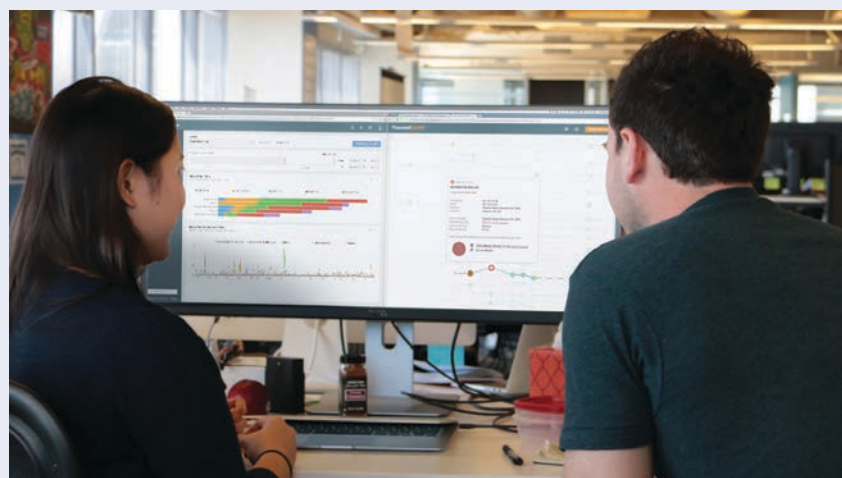
Juggling data across clouds

For the majority of companies, building and managing this growth of infrastructure will probably not be a core in-house competency, says Callaghan, unless they have a specific security or compliance need to hold that data over a period of time, rather than outsource the data to a third-party to hold: "Most companies will look at how to use one or more of the public cloud providers to fill this need, probably using hybrid cloud databases to support their applications."

"Network managers know that network infrastructure is more intricate than ever before, which is essential to enable enterprises to actually handle big data in today's interconnected world," declares Henthorn-Iwane at ThousandEyes. "Many companies, for example, now use multiple

cloud providers for their data. Yet, for network managers, this means that they now rely on a variety of third-parties to ensure their digital experience doesn't fail. However, the issue with relying on different third-parties is that the more providers involved between an enterprise and their end-user – be that an employee, a customer or a business partner – is that they have much less control when something goes wrong with the network."

The key challenge with the 'multi-cloud' environment that enterprises now exist in is that, in order to manage big data on their network infrastructure, managers are giving up chunks of visibility, Henthorn-Iwane warns: "Cloud vendors don't provide access to their infrastructures, and companies need new approaches to gain visibility across networks and services on- and off-premises."



Many believe that, for the majority of companies, managing the growth of infrastructure will not be a core in-house competency PHOTO CREDIT: THOUSANDEYES

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Talk to the cloud

Before you move your voice communications to the cloud, MYLES LEACH advises on how to choose a service provider



There is a revolution going on in the voice communications market. It mirrors what happened with data a decade ago, when cloud computing streamlined hardware-laden businesses.

Voice and data were historically very distinct markets; cloud telephony means businesses can now get what they have always wanted – one supplier for both IT and voice. In the UK cloud telephony already amounts to 13 per cent and expected to grow to around 27 per cent in 2022. The market is moving like never before. There are few organisations that are not concerned about digital transformation – and cloud communications are an essential part of any strategy to enable staff to work flexibly.

Cloud telephony might sound simple: After all, it's just another software application running on the network. However, there's lots to consider before you choose.

Location is important: If the service provider has its HQ and data centres in the EU, you will enter into a data agreement pursuant to Article 28 of GDPR. Legally, everything is covered because the data protection responsibility of your provider is regulated by European law.

Look at what certifications they have: Serious providers receive regular checks, audits and

certification by independent authorities and auditing institutes – such as TÜV or EuroCloud – to ensure that their customers are always protected. Cloud solutions are designed to inherently standard, offering features that already cover typical requirements. The right solution will be easy to integrate into your existing infrastructure. The solution is best when it inherently meets user needs – bespoke requests cost time, money and productivity. Cloud services are designed to be as cost effective and scalable for as many users as possible.

Scalability is also key: Growing organisations need the ability to add – or drop – users at any time. Even temporary traffic spikes due to seasonal peaks should be covered. With cloud services, there are usually no long-term contractual obligations. Providers typically say their bills are as transparent as water and electricity. Popular models are “Pay as you go” and “Pay per use”.

Look carefully at the details: Are there a minimum/maximum number of subscribers for the rate? Are there additional implementation costs? Do you need to provide cancellation notice within a defined time period? How does the rate compare with others? Make sure the terms and conditions offer you fair value for the costs and will be acceptable to your finance/procurement team. Lastly, to gain an impression of a provider's expertise, ask for customer references.

Myles Leach, managing director, NFON UK

Citing global sales growth in conference phones, **Konftel** has launched the model 800 for use with the cloud, an on-premises system or as a hybrid, with SIP, USB and Bluetooth connectivity.

With three microphones it is said to easily pick up the voices of 20 meeting attendees and can be extended with one or two of Konftel's Smart Microphones. For larger meetings and stronger sound, the company suggests connecting up to three phones.

Model 800 has the company's OmniSound technology for full

duplex, echo cancellation and noise suppression and has been developed to include beamforming and digital microphones.

The 4.3in touchscreen display has icons for the available features with buttons for volume and mute; it can also be controlled with Konftel's Unite mobile app for access to personal contacts and calendar and one-touch conferencing.

The Konftel 800 has been combined with the company's Cam50 – a pan-tilt-zoom (PTZ) camera with 12x optical zoom – to create the C50800 video conferencing system. The camera, phones, screen and laptops are connected by a single USB cable.



Just launched, **Spoka** is a new brand from **Arkadin**. It is designed to deliver cloud-based communications for small and medium sized enterprises and was developed in partnership with Cisco's BroadSoft.

Arkadin, owned by NTT, says Spoka provides the simplest way for businesses to unify their communications – including phone calls, digital meetings, instant messaging, file sharing – on all devices.

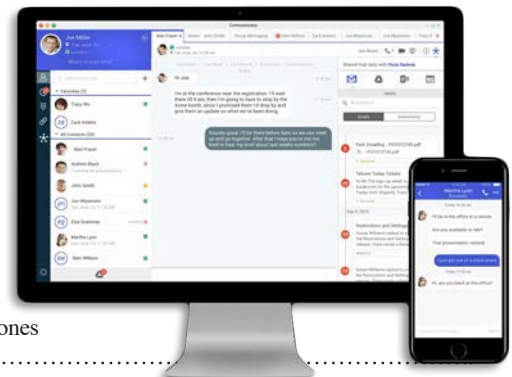
It says that, to make deployment easy, Spoka is sold via an e-commerce platform with easy-to-understand prices, removing the need for complicated hardware installation and upfront costs.

Spoka comprises two offerings. Spoka Talk is a cloud-based telephone system with enterprise-grade calling features including a dedicated phone number for all users available across multiple devices (PC, mobile app or desktop phone) and the ability to make unlimited international calls to landlines in 30 countries and mobile phones

in 10, enabling global communication for one monthly cost.

And Spoka Connect is said to offer a full range of UC solutions that enable SMEs to connect third-party business apps, such as Gmail, Outlook and Salesforce, giving instant access to relevant information and documents previously shared or worked on with colleagues for improved efficiency and productivity.

Arkadin plans to offer new products and features to the Spoka brand.



New business desk phones which use the Microsoft Teams unified communications platform have been announced.

Called the CCX series, they are from **Poly**, the new name for

Plantronics and Polycom.

There are two models, Poly CCX 500 and CCX 700, which the company says extend Teams to the phone so that calls, calendar and meetings are integrated and accessible through the phone's screen; one click on the calendar links the user to a conference call.

Both include Polycom HD Voice and a colour touch display screen. CCX 700 includes video calling with its built-in camera. They both continue to support Skype for Business.

Poly is also launching for Microsoft Teams: Polycom Studio, a USB plug-and-play video soundbar for small conference rooms.



The latest addition to **Snom** range of D3xx IP desk phones is its flagship model D385.

It has an inclined keypad and a four-way directional pad. The tiltable, 4.3in colour TFT display can show information and images such as the company logo and current user identity.

It has a further screen displaying options and the status of the 12 configurable function keys with dual-colour indicators.

These 12 programmable self-labelling physical function buttons each offer four different allocations – 48 in total – for access to frequently-used tasks such as extension, speed dial, redial, forwarding and presence indication (such as DND, do not disturb).

Snom says that the D385 is extendable with the D3 expansion module via its USB port, which adds 18 configurable, self-labelling LED buttons and a high-resolution display with backlight.

The D385 has a two-port

Gigabit Ethernet (IEEE 802.3) switch for connecting network devices together. It also has a USB port which, says Snom, can be fitted with a USB Wi-Fi stick for greater flexibility when positioning the phone. It can also be equipped with a USB DECT dongle such as the Snom A230 for use with DECT headsets. Built-in Bluetooth allows the use of third-party wireless headsets.

Snom says the integrated Digital Signal Processor (DSP) guarantees audio performance in true wideband HD audio quality including when used handsfree.



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Microsoft launches courses at UK universities

Microsoft has launched nine higher education courses with three universities in the UK in a bid to tackle the digital skills gap and boost the number of students studying emerging tech.

The US giant has partnered with the University of London, Staffordshire University and London School of Economics and Political Science.

The company said the courses in artificial intelligence cybersecurity and data science have been built to help tackle the skills gap in the UK.

"The incredible transformation we're witnessing in the 21st century workplace calls out for key organisations - governments, higher education institutions, employers, the non-profit sector - to step up and work together to teach, train and prepare workers for the jobs of tomorrow," says Karen Kocher, general manager of 21st century jobs, skills and employability at Microsoft. "This is a crucial part of our purpose at Microsoft and we are proud to join forces with seminal, global learning institutions to help make good on that purpose."

The nine courses are: data analysis, data science, big data, cybersecurity, DevOps, IT support, Internet of Things, AI and entry-level software development.

A 'new era' for edtech

The UK government has called on leading tech companies to work with schools and colleges to cut teacher workload, support professional development and improve student outcomes.

A new government strategy, hailed as "a new era" in edtech will also see the use of technology in education help level the playing field for those with special needs and disabilities.

Education secretary Damian Hinds unveiled the education technology strategy at an event in London and said that the £10m scheme will transform edtech, supporting innovation and raising the bar in schools, colleges and universities across England.

"For too long in education, technology has been seen as something that adds to a teacher's workload rather than helps to ease," said Hinds. "Technology is an enabler and an enhancer."

We now call on schools, businesses and technology developers to realise the huge potential of technology to transform our schools so that teachers have the time to focus on teaching, their own professional development, and - crucially - are able to cater to the needs of every single one of their pupils."

Chris Skidmore, the minister for universities, science, research and innovation, added: "As the way we interact with technology is changing at an ever-increasing rate, it is more important than ever that the education system keeps pace with the change around us. The collaboration enabled by this strategy will provide an unprecedented boost to the role technology has to play in schools, colleges and universities, and support the UK's dynamic edtech sector to develop an ever-wider range of exciting products and technology solutions."

IN BRIEF...

■ HSBC UK has handed edtech creative computer company Kano £14m funding package to aid its ambitious growth plans. The cash sum will help Kano to sustain year-on-year growth in 2019, provide a more flexible lending approach to its working capital cycle and further enable the company to respond quickly to the increasing demand for its products globally. Since shipping its first "computer and coding kit for all" in September 2014, Kano has used DIY computer kits and code to teach computing rather than beginning with a traditional computer. The company now has more than 250 million devices in 150 countries.

■ Most UK chief information officers are concerned worried that technology talent shortages will become worse after

the UK leaves the European Union. A study by Barclaycard found that with the continued uncertainty caused by Brexit delays, those in charge of IT are fearful about the impact the developments might have on their workforce. The study found 51 per cent of those polled said they were unsure if they would be able to find enough staff with the required technical expertise once the UK is out of the EU.

■ Companies House has recently embarked on a major digital recruitment drive and wants to hear from people interested in a career in IT, computing and other related sectors. Following two open days at its offices in Cardiff, the UK's registrar of companies said it will advertise vacancies in its digital teams over the next few months. These will include roles in DevOps and

infrastructure. For more information on upcoming digital opportunities, you can search for jobs at Companies House on the civil service jobs website.

■ A majority of UK workers said they no longer fear artificial intelligence (AI) taking their jobs and instead believe it helps people do their jobs better and faster, according to the latest Automation Anywhere report. Based on a poll of 4,000 employees, Making Work Human: 5 Challenges found that 72 per cent of employees at large enterprises saw AI as something they work with, not something that will work instead of them, while only eight per cent said the opposite. Over half of the respondents said AI will boost productivity in the long run, but that their company needed to give them more opportunities to test the technology.

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