

# networking

FIXED & WIRELESS NETWORKS FOR ENTERPRISE USERS

## Police Scotland's mobile future

Mobile operator awarded £21m three-year contract  
News, p2



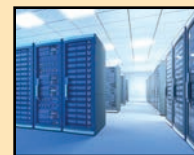
## Kitted out

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# Broadband speeds a 'key consideration' when relocating

Nearly two-thirds of UK SMEs said broadband speeds were a "key consideration" when relocating to new premises because they fear loss of business, according to a new report.

The Close Brothers Asset Finance Barometer research found 62 per cent of respondents said broadband speeds were of key importance, while this figure rose to 76 per cent in London and 73 per cent in Wales.

With regards to actually losing business because of slow broadband speeds, London (56 per cent) and Wales (38 per cent) were well above the national average (30 per cent), alongside Yorkshire (40 per cent). Furthermore, when asked about their broadband provider's responsiveness to requests, 79 per cent gave a positive response, while a further 77 per cent saw their business's broadband as "value for money".

In addition, three in four engineers surveyed said they would use the speed of broadband as one of the key determining factors when thinking of relocating, which is well ahead of the national average of 62 per cent, according to Anton Nebbe, head of research, Close Brothers Asset Finance. "At 40 per cent, engineers are also more likely than any other sector we surveyed to have lost business because of slow broadband speeds," he told *Networking+*. "Business models are becoming even more dependent on the internet not only for trade and innovation but for a range of issues, including security measures to keep their DNS protected from malicious attackers."

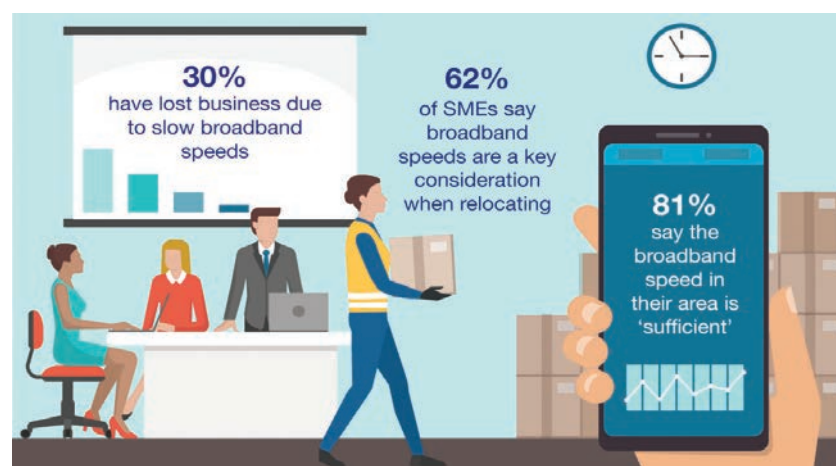
Sectors that took part in the survey include construction, engineering, manufacturing and transport and haulage.

Questions asked in the survey include:

Are broadband speeds in your area sufficient for your business needs? Have you lost business because of slow broadband speeds? and Hypothetically

if your business was to relocate, would local broadband speeds be an influencing factor on where you chose?

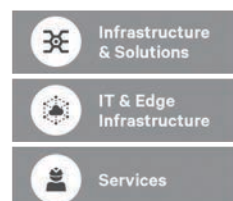
*continued on page 2*



Findings from the Close Brothers Asset Finance Business Barometer research

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## Spy chief warns of Chinese threat

Britain must understand the potential "opportunities and threats" posed by Chinese companies such as the embattled tech giant Huawei, the head of GCHQ has warned.

In a rare speech at a recent event in Singapore, Jeremy Fleming emphasised the need for better cyber-security practices in the telecoms industry.

He said that although the UK is at the forefront of cyber security, the nation must remain alert to the potential risks when using Chinese technology in its telecoms infrastructure.

"We have to understand the opportunities and threats from China's technological offer," Fleming said to government, military and industry figures in the island city-state. "Understand the global nature of supply chains and service provision irrespective of the flag of the supplier. Take a clear view on the implications of China's technological acquisition strategy in the West."

In January this year, it was reported that intelligence chiefs concluded that the security risk around Huawei supplying critical infrastructure for the 5G network to be "manageable". However, Fleming confirmed

more recently that no decision has been made on the company's potential involvement in Britain's 5G network. A government review ruling whether telecom companies can use the company's technology for the new network is due out in March or April.

Nevertheless, with 50 per cent of the 1,100 incidents handled by the UK National Cyber Security Centre over the last two years involving state actors, Fleming highlighted the need for an internationally agreed system of ethics and standards for operating in cyberspace.

"Some of the behaviour we've seen from certain states or criminals is clearly wrong in any circumstance. An attack on a hospital's IT, or on a country's electoral system will always require sanction. Unchecked, we're heading for an even less governed space where rights and wrongs are not automatically recognised and where acceptable behaviours are not a given."

The US, Australia and New Zealand have all barred Huawei from involvement in building their telecoms infrastructure amid concerns that it could be used by China for spying or mounting cyber-attacks.



## Bad broadband is bad business

*continued from page 1*

Neil Davies, chief executive officer at Close Brothers Asset Finance, said small to medium sized businesses recognise that they need good broadband speeds if they are going to be able to compete against larger competitors.

He also said that the findings lend weight to the claim that the UK suffers from some of the slowest broadband speeds on the continent. "As it is, a recent study confirmed that the UK slipped to 35th place in an annual league table of global broadband speeds, putting it in the bottom third of EU countries," he said. "If regions or cities are hoping to attract relocating businesses, focusing on broadband speeds would be a good place to start. For example, 74 per cent of owners of high-tech manufacturing firms would only move if their broadband speed was better than their existing location."

However, Davies said there might be some positives to take from the findings in that eight in every 10 of 900+ (81 per cent) of respondents said the broadband speeds in there was "sufficient", with little variance between regions, sectors and business size.

"This is a positive message for broadband providers, but in some respects, people don't know what they might be missing out on," Davies added. "For example, the download speed in Singapore is three times as fast as that of the UK."

The survey asked the opinions of 10 different sectors across England, Scotland, Wales, Northern Ireland and the Republic of Ireland. ■

## UK firms lagging on security testing

New research has found that only five per cent of UK businesses spend £750,000-£999,999 on security testing.

The Cost of Security Testing, a report recently commissioned by security testing platform Avord, also found that only 1 per cent of companies spend over £1m annually on security testing. It said that businesses across the UK have criticised the security testing industry for being too expensive and this has resulted in companies spending more than £6.6bn annually protecting critical assets from cyber-attacks.

The research further found that companies are struggling to justify the costs of external consultancies. Avord said this data suggested there is a gap in knowledge of the true financial cost of a data breach

and preventative security testing, but that this is based on misinformation and overpriced consultancy costs.

Brian Harrison, chief executive officer, Avord, told *Networking+* that network managers and engineers were likely to have been directed by management to seek external assistance and have since been charged excessively for security testing by consultancies.

"Whatever the experience or expertise of technical staff, businesses are without sufficient time or the right technology to effectively protect their critical assets," he said. "Huge consultancy firms have convinced them that in order to successfully test all of their vulnerabilities, they must spend large sums preventing cyber-attack, which is simply not true. Testing can and

should be affordable for large and small businesses across the supply chain.

Harrison said if every cyber-attack costs £855,000 on average, according to Radware (provider of load balancing and cybersecurity services for data centres): "Business simply can't afford not to test, it is one of the fundamental ways you gain insight into your control environment and the level of protection it conveys."

He added: "To get value for money when testing, I would advise any company to fully understand their environment and start by assessing the critical assets first. This can save a lot of time and money instead of using the scattergun approach. Security testing is your eyes and ears when it comes to understanding your vulnerabilities, and how to protect them." ■

## Police Scotland enters a mobile future with EE

A £21m three-year contract to supply mobile services to the Scottish Police Authority has been awarded to mobile operator EE.

Under the terms of the deal, a number of officers will be supplied with mobile devices which will enable them to access information remotely instead of using multiple sources. They will also have the option to record information in a secure, digital format.

BT-owned EE is the main contractor and will provide the mobile network, while Motorola will supply the Pronto

Digital Notebook software.

The handsets will come from Samsung, while Blackberry will provide the mobile device management solution.

Assistant chief constable Malcolm Graham said: "The use of mobile devices will revolutionise the way officers and staff access systems, currently only available from desktop and laptop computers within police stations, enabling them to work on crime prevention and community-based policing to keep people safe, whether in the public, private or virtual space."

BT said the high-speed 4G network and cloud technology would free up police officers' time so they can focus their efforts on policing in communities.

Roll-out of the new devices is expected to begin this year. ■



*The high-speed 4G network and cloud technology will help free up officers' time so they can better focus their efforts on policing.*

## Exponential-e unveils new SD-DP cloud management platform

Exponential-e, the cloud, network and unified communications provider, has launched the latest phase of its Software Defined Digital Platform (SD-DP).

The enhanced offering consists of core and edge computing, coupled with SD-WAN, SD-Data Centre to form an underlying network that supports secure data flow between multiple clouds. The most recent technological development of the SD-DP is the Cloud Management Platform (CMP), which enables customers to manage the data and cost bases of multiple cloud platforms.

Lee Wade, chief executive officer and founder of Exponential-e said concerns around cloud complexity, business continuity and security "can be consigned to the past", along with "fretting" about fixing their legacy

systems. "We take care of that," he said. "Our most recent technological development for the SD-DP is our CMP. This allows our customers to manage their data and cost bases of multiple cloud platforms through a single pane of glass."

Chris Christou, director of engineering at Exponential-e said SD-DP provides a scalable high-performance network with embedded security, centralised policies and agile deployment. "It underpins the new landscape of multi-cloud environments, including SaaS applications, private data centres, public cloud and remote user connectivity (including branch sites)," he said. "It also provides granular control of applications over the multi-infrastructure landscape, in a homogenous, simple, and secure manner." ■

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## THE WORLD ACCORDING TO...



Jonathan Anthony,  
coder, investor  
and founder,  
Reactions.ai by  
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### How to prevent a bloated political cabinet using tech

A survey for data security company Clearswift found that 90 per cent of businesses said they fear insider threats. Unsurprisingly really, against a backdrop of 74 per cent of cyber incidents coming from within companies.

So, if protecting from the inside is as important as defending the perimeter, what tools are available to help defend employee complicit data theft?

Trojans don't steal data, people steal data. People are good at getting around defences, and hackers are good at finding valuable data. When they do this, thieves leave tell-tale signs, and AI is good at spotting that.

The holy grail of cyber security is to catch the perpetrators rather than just their tools. In the world of Data Loss Prevention (DLP), techniques include monitoring all communications, creating honey pots and tagging documents.

We take a different approach to the DLP solutions because we actively avoid collecting sensitive data. This makes the problem harder to solve, but intriguingly that solution is consequently more exciting to understand.

When we look at traditional CASB (Cloud Access Security Broker) they intercept all communications and file activity, filtering and storing this information in one place, often with an API for access to a SIEM (Security Information and Event Management). Most DLP software takes screenshots and records keystrokes. If we have already decided that people cannot be trusted, why collect that sensitive data in one place?

Far too much for a human to understand, large volumes of non-specific data are perfect for a neural network. For example, we monitor DNS stems (bbc.co.uk) rather than the full URL which may contain sensitive information.

By monitoring user activity, mouse, keystrokes, applications and network access, then feeding a whole company's data into a neural network, we understand the people in the organisation and build detailed profiles of their activity, which can then be reflected back with visualisations and alerts.

A challenge posed by DLP software is that these solutions can create an entire attack surface open to abuse. We avoid this by training the neural network with aggregated data rather than specifics - counting the number of keystrokes rather than recording the letters.

The AI learns how people behave based on their invisible activity, and then highlights people behaving out of the ordinary.

AI-based behavioural analytics can also boost productivity. This new breed of AI cyber security software, driven by behavioural analytics, helps to catch bad actors rather than viruses, while highlighting productivity issues and avoiding the infamous Shadow IT trap.

# NGMN & Wireless Broadband Alliance address opportunities

A report jointly-published by Next Generation Mobile Networks NGMN Alliance and Wireless Broadband Alliance (WBA) has highlighted the importance of convergence at a network level between 5G and Wi-Fi.

The findings showed as society increasingly depends on fast and reliable data connectivity, it is becoming more important that the coming together of both services means "the unique and complementary capabilities of both RANs" can be leveraged to provide seamless network services.

It said in order to realise service and network convergence, the companies worked to identify requirements that must be satisfied. "This is particularly true in the enterprise and public Wi-Fi space, where there is a demand from cellular operators for a standardised solution for improved visibility and control in the configuration and management of Wi-Fi access networks," said Peter Meissner, chief executive officer, NGMN Alliance.

The research further identified situations that could require combined resources from both 5G and Wi-Fi networks in providing

cost effective solutions that meet diverse sets of requirements on throughput, latency, connection density, coverage, availability and reliability.

"For example, enterprise services on cellular networks, in particular, those that the 5G core enables, may require a new look at the use of an access neutral mechanism for a number of reasons," it said. "These include gaps in coverage, the proliferation of indoor and outdoor Wi-Fi deployments, and potential for multi-site enterprise environments."

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## Barac update malware detection platform

Cybersecurity firm Barac has updated its Encrypted Traffic Visibility Platform – which detects malware hidden inside encrypted internet traffic – to support the latest version of the Transport Layer Security (TLS) protocol, 1.3. Designed to make it harder to snoop on encrypted communications, the stronger encryption protocols specified by TLS 1.3 make it “impossible” for security appliances to intercept and decrypt traffic entering enterprise networks, in order to look for malware. Barac said its platform overcomes this challenge by scanning the metadata of encrypted traffic in order to spot malware, without the need for decryption. ■

## Boston Networks breaking new ground

Glasgow firm Boston Networks has launched what has been lauded as the UK’s most advanced IoT network. The wide-area wireless sensor network will enable applications and services to collect data devices and then send it without the need for cellular or Wi-Fi. It will support businesses to develop new and innovative applications and change the way they work. Part funded by the Scottish Government, with support from Scottish Enterprise, Highland and Islands Enterprise (HIE) and private sector investment from Boston Networks itself, it was launched at Glasgow Science Centre. ■

## Cortex targets UK

South African AI software and solutions firm Cortex Logic has secured a cash injection to help it expand to UK customers and other territories across the globe. Cortex, which uses AI to help businesses solve strategic and operational problems, by mobilising data science, IoT and big data and analytics, said the UK was a key market in the company’s overall global expansion because of existing business and partner interests who have “a similar commercial and social good focus” on AI. “We are interested in industrial, mining, financial services, health, telco, retail, logistics because these sectors are pioneering in the assessment and deployment of AI solutions,” Nick Bradshaw, head of marketing at Cortex Logic told *Networking+*. ■

# Cisco’s AI collaboration

Cisco and the University of Edinburgh will collaborate on opportunities in AI and data-driven innovation, a pillar of the £1.3bn Edinburgh and South East Scotland Region Deal launched last summer.

The first initiative in the partnership will see the US tech giant support 20 start-ups through the University and Wayra UK’s Artificial Intelligence (AI) and Blockchain Accelerator.

Over a three-year period, Cisco will provide business development and

technical support, mentoring and access to tools for resident startups.

“The insight that we can gain from data opens up amazing opportunity for all industries – not least with its application in the field of AI,” said Tony Gribben, country manager, Cisco Scotland. The ambition to drive economic and inclusive growth for the region is something that we very much support, and we look forward to continuing to partner with industry, government and academia on initiatives towards that goal.”

The initiative also presents Cisco the opportunity to connect with university researchers and tackle the challenges relating to the security and privacy of IoT devices, in addition to possible research collaboration on 5G and cyber security.

Based at the University of Edinburgh’s Bayes Centre, the programme is designed to accelerate the best AI and blockchain start-ups in Europe to scale globally. It is already home to the first cohort of 10 start-ups.

Jim Ashe, director of commercialisation and industry engagement, University of Edinburgh, added: “As well as becoming a key supporter of our flagship AI and Blockchain Accelerator programme, the recent signing of a Memorandum of Understanding underscores our intention to work together more collaboratively across all areas of data-driven Innovation.”

Launched in August 2018, the City Region Deal aims to help Edinburgh and South East Scotland accelerate growth, create economic opportunities and new jobs. ■



*The programme is based at the University of Edinburgh’s Bayes Centre and is designed to accelerate the best AI and blockchain start-ups in Europe to scale globally.*

## DigiCert introduces new cloud management platform

DigiCert, the TLS/SSL, IoT and PKI solutions provider, is rolling out a new certificate management platform for cloud and hosted environments.

CertCentral Enterprise will provide enterprise customers with better control over certificate security and compliance, DigiCert said. Firms will also have access to 24/7 visibility, remediation and expertise and guidance to protect their businesses, customers and reputations.

The platform allows customers to customise and automate all stages of life-cycle management for transport layer security/secure sockets layer (TLS/SSL) and other digital certificate types from a user interface.

Jeremy Rowley, chief of product at US-based DigiCert told *Networking+* that the

CertCentral Enterprise platform will serve customers in the UK with a robust technology and feature set with automation that will help them discover and manage all certificates to avoid expiration and costly shutdowns. “DigiCert plans to continually update the platform with new features each quarter, including eventual integration of European-focused services and products, such as those offered by QuoVadis,” he said. “Along with certificate management, users may enjoy priority support and certificate validation with a team in their own region to serve them.”

DigiCert also said CertCentral Enterprise better manages digital certificates in a way that improves operations of secure communications, such as lagging, latency and compliance. ■

## ‘Workers putting businesses at serious risk’ with social media

Employees are exposing their businesses to potential cyber-attacks by continuing to use unapproved apps such as Instagram, Facebook Messenger and Snapchat, a report has found.

Research conducted by the cloud and managed services specialist Maintel found that four in 10 employees “confessed” to using social media more than two hours each day.

Furthermore, Maintel found that although the majority of employees knew that various apps are not permitted for use in the workplace, usage of WhatsApp, Snapchat and Instagram were actually on the rise over the past three years – 30 per cent, 27 per cent and 33 per cent respectively.

Employees also gave their rationale for breaking the rules. They said WhatsApp offered ease of use (84 per cent), speed of response (44 per cent) and informality (35 per cent) in the workplace.

Rufus Grig, chief technology officer at Maintel, said the risks of using undocumented, unsecure apps “should be obvious enough” – especially in light of GDPR.

“If this research tells us one thing, it’s that whilst organisations can go ahead and prohibit the use of as many tools as they like, this will never be enough to actually make this vision a reality,” Grig said. “Businesses need to recognise that employees are still using these tools in the knowledge they are unauthorised and make a conscious effort to understand why. Employers need to ensure the communication needs of a multi-generational workforce are catered for.”

He added that in order to achieve this, “it’s clear we need to invest more time into making sure that approved tools offer the best user experience possible, or in those words, offering platforms that are motivating, compelling and easy to use in the workplace”. ■



*Rufus Grig, chief technology officer at Maintel says the risks of using undocumented, unsecure apps “should be obvious enough”*

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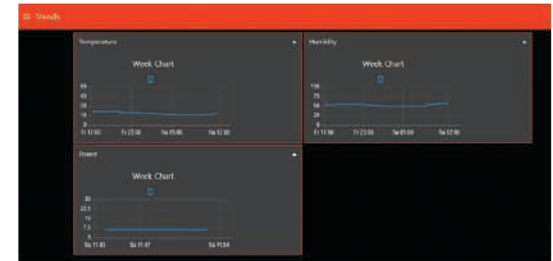
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IMAGE



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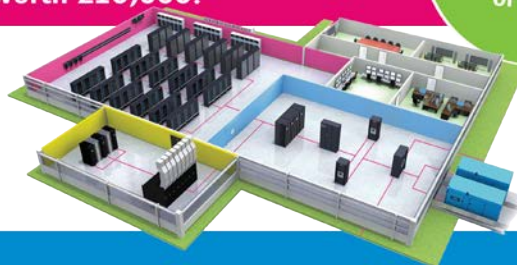
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# UKFast Public Sector & ClearCloud join forces

UKFast has pulled ClearCloud and UKFast Public Sector together to form UKFast Group – a one-stop shop with revenues predicted to exceed £60m this year.

The Manchester-based company said ClearCloud secured 11 customer wins in its first quarter of trading. It provides managed support and migration services for public cloud hosting from Microsoft Azure and Amazon Web Services.

UKFast Public Sector’s customers include the Cabinet Office and Ministry of Defence. Lawrence Jones, chief executive officer of UKFast, said ClearCloud and UKFast Public Sector “sit well” within UKFast’s environment, while the trading relationships and synergies within the three customer bases are obvious.

“It was always the plan, following the acquisition of S-IA, to roll this business into UKFast,” Jones said. “We recognised a strong cultural fit. Nowadays businesses want multi-cloud strategies, so our investment in ClearCloud is timely. It helps us support our customers that want to spread workloads across multiple providers.”



UKFast caters for more than 5,000 clients from its HQ in Manchester (pictured) and office in London.

Jones pointed to ongoing tough market conditions because of Brexit and said, “businesses look to their key suppliers for cost savings and efficiencies”.

UKFast employs 350 people across its campus HQ in Manchester and office in London, supplying cloud and dedicated servers to more than 5,000 clients. ■

## SMEs not heeding GDPR warnings

An alarming 75 per cent of small businesses in the UK are yet to update or review their data and privacy policies since the introduction of the General Data Protection Regulation (GDPR) in May 2018, a new report has found.

According to the findings of Under Attack: Assessing the struggle of UK SMBs against cyber criminals, a quarter of the 500 IT bosses within SMEs who took part in the survey, said they had no plans to update or review their policies at all. This is despite the fact that GDPR brings stricter, punitive punishments for businesses which fail to protect customer data – up to four per cent of global turnover for the worst offenders.

GDPR has put more pressure on businesses when it comes to storing information they hold on customers and includes new rules on reporting breaches which resulted in data losses. Shortly before GDPR was introduced, research provided by the Federation of Small Businesses found that 90 per cent of small firms were not compliant with the stricter rules and regulations relating to data security and protection.

It is unclear whether the fact such a

## SysGroup add Certus for initial £8m

IT and cloud hosting provider SysGroup has acquired Welsh counterpart Certus IT for an initial cash consideration of £8m.

With an established presence in financial services, retail, insurance, charity, education and healthcare, Liverpool-based SysGroup now has a foothold in professional services and manufacturing. Certus, which was founded in 2000 and is based in Newport, has an attractive customer base including Admiral and Confused.com.

The deal marks SysGroup’s seventh acquisition in the last five years, with the purchase figure expected to rise to £9m once certain targets are met.

SysGroup chief executive officer Adam Binks said the new addition to the group represents a step-change in terms of the scale of the business and he thinks the enlarged group will be better positioned to penetrate SysGroup’s target market and drive further growth. “This acquisition fits within our strategy of growing the business organically and through strategic acquisitions, and we are excited by the prospects that lie ahead,” he said. “Through this period of growth, we remain completely committed to ensuring exceptional levels of customer service and delivering best-of-breed solutions to our enlarged customer base.”

Now with a presence in south Wales, SysGroup also has offices in Telford, London and Coventry. ■



“Through this period of growth, we remain completely committed to ensuring exceptional levels of customer service and delivering best-of-breed solutions to our enlarged customer base.” says SysGroup CEO Adam Binks

## THE IoT CONNECTION News & developments from the world of the Internet of Things. This month, we look at manufacturing.

### Cisco gets industrial

Technology giant Cisco will make it easier for businesses in manufacturing and other sectors to introduce IoT devices to the workplace by rolling out a suite of new products intended to boost scale, flexibility and security for industrial IoT deployments.

The new offerings, designed to help to bridge the gap between IT and OT (operational technology used in manufacturing), include Catalyst industrial switches designed for IoT infrastructure and managed through the Cisco DNA Center, as well as IOS XE-powered industrial IR1101 Integrated Services Routers. Cisco said both products were purpose-built for IoT environments. The tools are managed by Cisco DNA Center (Cisco’s central management tool for enterprise networks) which allows businesses to manage their infrastructure in a single area, even if they are being used across different areas and environments.

The IR1101 Integrated Services Routers are modular, which means customers can upgrade to new features such as 5G without removing and replacing older technology.

The family of switches, software, developer tools and blueprints merge IoT and industrial networking with intent-based networking (IBN), classic IT security, monitoring and other things. IBN systems provide a new way to build and operate networks that improve network availability and agility.

The Cisco DNA Centre has automation capabilities, assurance setting, fabric provisioning and policy-based segmentation. It is also home to Cisco’s IBN initiative offering customers the ability to automatically implement network and policy changes on the move and ensure data delivery. The IoT field network director software manages multiservice networks of Cisco industrial, connected grid routers and endpoints.

Cisco, which has north of 40,000, said

solutions can be rapidly deployed through automation and modified to accommodate new technologies such as a 5G network.

### Digital Catapult launches IoT manufacturing trial

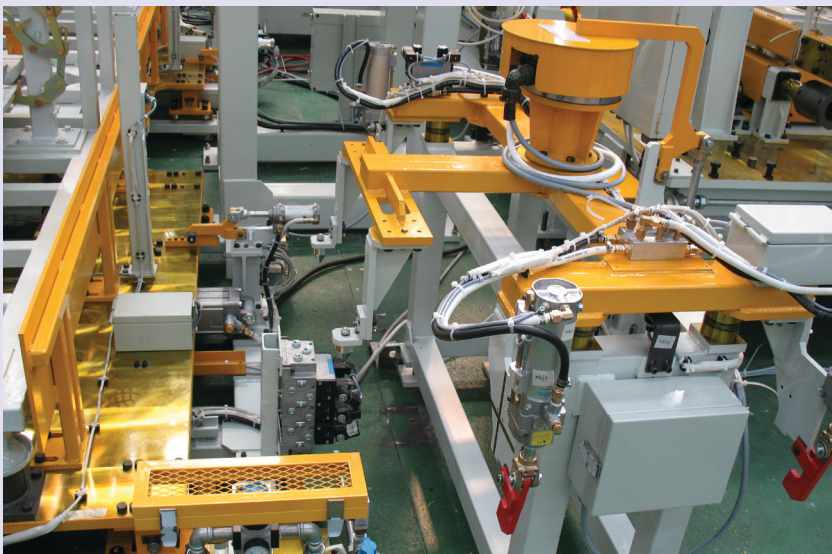
Two UK businesses have been selected to take part in an “industry first” £230k national digital-pilot project to demonstrate the potential of IoT within manufacturing, run by Digital Catapult.

The project, called The Connected Factory Demonstrator, will see Dyer Engineering Group and Special Metals Wiggin explore how IoT and LPWAN can improve productivity, streamline processes, improve yield and increase quality control.

Jeremy Silver, chief executive officer of Digital Catapult, which champions the early adoption of technology, said: “The impact of advanced digital technologies cannot be underestimated, and we’re looking forward to working with Dyer Engineering and Special Metals Wiggin to demonstrate the full potential of future networks technologies in a working manufacturing environment.”

County Durham-based Dyer Engineering Group is a fabrication and machining business manufacturing metal components and structures. Richard Larder, operations manager, Dyer Engineering, said: “Adopting industrial digital technology is of paramount importance to safeguard UK manufacturing for generations to come. We have benefited from the technological pioneers before us and now feel it is our time to pick up the mantle and take on the challenges and risks of significant change, and we are truly up for it.”

Dyer previously attended the Digital Catapult North East Tees Valley (NETV) Digital Manufacturing Programme, an initiative designed to help manufacturers of all sizes understand the impact of



Implementation of IoT in the manufacturing industry is helping reduce downtime, save energy and increase revenue.

advanced digital technologies and how to use them to future-proof their businesses.

Special Metals Wiggin, based in Hereford, makes a range of nickel alloys used in aerospace, energy, marine, automotive and nuclear industries. Jonathan Silk, quality and technical director, Special Metals Wiggin, added: “We anticipate that by introducing state-of-the-art wireless technology we will make significant advancements in process control and asset tracking. This will enhance our position in a highly competitive worldwide market for the supply of nickel alloys. We look forward to the opportunity of working with Digital Catapult and the solution providers.”

### Konecranes picks Siemens to speed up product development

Konecranes, a Finnish firm specialising in the manufacture and service of cranes and lifting equipment, has rolled out the Siemens digital innovation platform to speed up its

product development process and bring product and performance data together.

The company is using MindSphere, the open, cloud-based IoT operating system and the Teamcenter portfolio, the digital lifecycle management software, to take advantage of the digital twin and reduce the number of physical prototypes needed to validate a product.

“The product design process is currently based more on an engineer’s experience and generally shared assumptions than measured facts from existing products,” said Juha Pankakoski, Executive VP, Technology at Konecranes. “These assumptions often lead to non-optimized designs that are over engineered. With an integrated digital twin platform, we see major potential in speeding up the product development process, reducing prototypes, increasing traceability and thus improving quality and reduce development cost.”

Siemens said that by using the Siemens platform, Konecranes has been able to connect the data from the engineering design, analysis and simulation and physical (testing and operational reliability) worlds.



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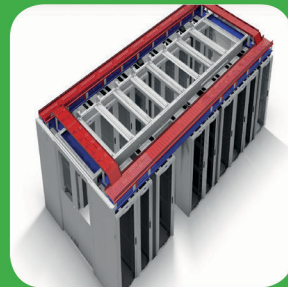
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# Faster and safer thanks to new IT

**IT is vital in the public sector. Here's how three organisations made a success of their upgrade projects**

## We ensured our data was safe and secure

Gloucestershire County Council (GCC) administers local government services for a population of 630,000 in the south west.

It has a policy called Agile Working and, in the light of GDPR, it wanted to review data access. The aim was to improve security while ensuring that staff and partner user groups could easily access resources from anywhere.

It also wanted to replace weak, static passwords with dynamic one-time passwords using multi-factor authentication. At the same time the council wanted to consolidate its two on-premise systems which duplicated training and skill sets and increased costs.

The council's ICT commissioning officer, Clare Cato, said: "With the GDPR deadline looming, we wanted to take greater

control over who accesses our data. The introduction of multi-factor authentication was a key component to achieving that. Additionally, we wanted a solution that delivered a positive user experience and would be readily accepted, to achieve the maximum return on investment."

After reviewing the available products, GCC chose AscendID, a cloud-based product supplied by IP Integration. It uses a range of authentication measures from OneSpan, formerly Vasco, to control who has access to corporate resources and the method used, including employees' own devices.

IP Integration says the product was designed and implemented using a hierarchical approach as the basis for access to resources. Then profiles were set against the resources so that they would react to the security grades of users and where/how they access systems and data. So, for example, care workers can have different access rights to senior managers.

Authorised staff also now have access round the clock to a manned technical support centre in the UK and a secure web administration portal, where they can raise support tickets, run reports, check usage, add or request new users, replace old users, redeploy tokens to new users online and more.

IP Integration says the council now has much lower costs than when it was

running two in-house systems and the costs are also simpler to understand: there is one annual charge per user, which includes set up. In addition, subscriptions come out of operational expenses rather than capital expenditure.

Ms Cato said: "...you almost forget it's there. It just works, and works extremely well, which gives me tremendous confidence and peace of mind."

*Pictured: Painswick village*

## New ICT kit aids learning for youngsters

Bottesford Infant School, Scunthorpe, has just over 200 pupils aged five–seven and 22 staff. When they returned this year, the school had been fitted out with brand new IT equipment.

Problems had been arising because it was using a remote server and suffered slow Wi-Fi response. It meant network downtime and disruption to classes.

The school contacted Education Lincs, based in Humberston, Grimsby. The company was founded in 1998 by Tony Kiddle, who began his career as a teacher of technology and is a former member of the advisory team at Humberside County Council. Initially the company served local schools and now claims to support 500 schools nationally.

Education Lincs equipped the school with products from Zyxel. They include Nebula cloud network management, NAPI02 802.11ac dual-radio Nebula cloud managed access points to improve Wi-Fi throughput and coverage, and PoE switches.

Now a new centralised server connects 120 iPads, eight 70-inch interactive screens with Wi-Fi, nine laptops and 10 desktop PCs. And control has moved to the school.

There is no need for dedicated ICT technicians; staff can manage the network remotely, view usage, traffic and loading and quickly make any necessary changes.

Education Lincs said the equipment offered reasonable cost and speed of installation – it took just three hours to fully complete.

Education Lincs says it uses Zyxel's gigabit switches to ensure that the network is running at a fast and stable speed for tasks from printing to powering PoE devices on the network. The company says that small Nebula access points provide strong coverage for all mobile devices around the school, supporting activities such as streaming videos in the classroom or browsing the web in the staffroom.

Bottesford's admin officer, Lesley Zetterstrom, said: "This upgraded network solution marks a new milestone for our school." Pupils and teachers found real-time access to information made learning and teaching more interactive and stimulating.

Education Lincs says it has installed Zyxel

products in 18 schools in two years and says they cost less than the price of a license renewal for other equipment. It planned to do the same for another 27 schools.

## Trust had to move fast... or staff would not be paid



Outwood Grange Academies Trust, formerly known as Outwood Grange Academy, Wakefield, before multi academy trusts (MATs) were established.

Since becoming an MAT in 2009 it has grown significantly to 31 academies, both primary and secondary.

Its director of ICT, Stuart Jones, said: "We specialise in the transformation of underperforming schools. We go where we feel we can make a difference to student's lives. I'm proud to say we have had a lot of success as several have gone from special measures to outstanding."

The trust had leased a rack from a data centre to host its HR, payroll and backup systems. However, it says that after a number of incidents, it decided to look elsewhere.

It chose Node4, founded in 2003 by the CEO, Andrew Gilbert, they are based in Derby and have offices in Nottingham, London and Reading.

Mr Jones said previous experience showed that cheapest was not necessarily the best and they sought a successful provider which owned its own facility.

He said: "With Node4's help we very easily relocated our critical centralised telephone infrastructure, backup systems, email server and HR/finance and payroll facilities. This makes our model very cost effective and allows support staff to work across multiple academies. It also means that everyone can get what they want from one location. Without this tech, we just couldn't cover that area with such a lean staff count. We also couldn't allow our staff such flexible, easy working."

Once academies join the trust, the first capital project is a new phone system compatible with other academies so they benefit from free calls.

When the trust moved to the new data centre, it was on a tight turnaround: there was just a small window to move the systems across, particularly payroll – 4,500 staff had to be paid on time.

Mr Jones said: "The full move, and everything involved, went ahead as promised. That sounds simple but it's alarming how often businesses don't deliver. It was a totally smooth transition and payroll was up and processing again the next day."

He said that every night 27,000 users' files and folders were sent to be stored securely and kept for 365 days.

He said: "If we experience any kind of disaster, we can have an entire school back up and functional on our stand-by equipment within 24-36 hours. That's massive."



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# The true cost of storage

**As data loads get ever-bigger, enterprises must invest more in their storage solutions – so how can they now ensure best ROI for spend decisions?**

**D**emand for enterprise storage continues to show double-digit market growth, and you don't need a data science degree to see why. As the fuel of global digitalisation, data now powers every information-driven vertical sector, and the computer 'engines' to be fuelled get bigger each year.

Research company Statistics MRC says the global cloud storage market is expected to be worth \$112.73bn by 2022 with a CAGR of 29.1 per cent. Such a strong sales dynamic explains in part why storage hardware prices have stayed static or come down, as cloud service providers upscale their IT estates, while product vendors otherwise seek to retain customers with a preference for on-premise hardware, even if only as part of a hybrid cloud storage architecture.

As enterprise data storage options become more affordable in pound-per-terabyte terms, it's easy to see how the issue of return on investment (ROI) slips down the IT value agenda. Too often, this is because highly-available, scalable and inexpensive storage – on-premise or cloud-based – becomes mixed-up with another key value metric: total cost of ownership (TCO). It can also be overlooked when the underlying contribution properly-configured storage



**"Data is growing exponentially – much faster than price is declining."**

Eran Brown,  
EMEA CTO,  
INFINIDAT

makes to business efficiency is missed.

"It's true that we're seeing all media format prices fall – Flash, HDD, and even the new persistent memory technologies

like Intel's 3D Xpoint are expected to drop in price in coming months," says Eran Brown, EMEA CTO at INFINIDAT. "At the same time, however, data is growing exponentially – much faster than price is declining – and other factors accelerate the cost of storing it, which puts a strain on companies' IT budgets. In that specific context, cloud storage does not [in fact] solve the problem, as each gigabyte stored in the cloud has a clear price tag too."

Despite the levelling-out of storage option costs in real terms – capital and operational – quantifiable ROI as a guiding principle of purchase has an important part to play in storage strategy decision-making. It should, for instance, help ensure that an optioned storage platform is best fit for both the volume and the type of data to be stored; and choice should inform long-term data retention requirements set to become more important to IT governance in the 2020s. This requirement will escalate as organisations retain newer forms of data, such as customer interaction records and digital collaboration workflows.

The first challenge for IT managers is that organisations are consuming more data each day, and primary storage can be expensive, dependent on the performance requirements, says StorCentric CTO &



Data now powers every information-driven vertical sector.

Nexsan founder Gary Watson. "Due to the sheer volume of data, buying more storage, or over-provisioning for it, isn't always a sensible option," Watson adds. "Costs can easily rack-up."

And while hardware acquisition costs on a pound-per-terabyte basis may continue to come down, this is a "shrinking part of the TCO [total cost of ownership] equation," adds Stuart Gilks, systems engineering manager at Cohesity. "It doesn't take into consideration how broad the scope of ROI is."

According to Eran Brown at INFINIDAT, ROI also had to be adjusted to reflect the demands wrought by the trend toward high-performance line-of-business applications. "We used to think about storing data as the price-per-gigabyte of the primary storage. It's no longer the case," he explains. "Geographically-distributed

clusters that ensure business services are 'always on' now require that the secondary dataset copy is also within a tier-1 storage solution. This is further aggravated as everyone uses their smartphones to conduct most of their B2C interactions, thus generating a higher dependency on data – and a new data deluge."

This enables IT systems to better respond to customer needs, analyse them in more detail and create solutions tailored to each customer, Brown notes; but it also increases the cost of the data infrastructure required to support the growth of the business: "The need for fast recovery from logical corruption dictates the use of snapshot/Continuous Data Protection, with the latter consuming even more storage space. Alternatively, organisations can opt for a longer downtime, but that too has a cost associated with it. When

data is backed up, it stays on disk – a third or fourth copy – which escalates storage spend. And real-time security tools trying to locate and fend-off malicious cyber-attacks are also collecting and analysing huge amounts of data." This new 'data consumer' accelerates storage investment demands further, Brown believes.

Meanwhile, despite high-capacity disk storage being relatively inexpensive, storage remains one of the top three items in the enterprise IT budget, Thomas Campbell, technical services director at Redstor, points out: "This is driven by investment in higher-performing storage for the most demanding and business-critical applications, as well as ongoing sprawl of data-rich applications, which have meant the pace of data growth has often outstripped the decline in cost of high-density storage."

For Grant Caley, CTO at NetApp, "ROI

certainly still matters when it comes to on-premise data storage provisioning – regardless of the shift towards relatively inexpensive and on-demand enterprise storage. While the storage/density price ratio improves year-on-year, that is only the entry point to storing data itself." An ROI calculation, "needs to focus on what is being stored on that disk, and its value to the business itself", Caley argues.

Another useful value criterion is to apply a value to the types of data sets an organisation needs to store. For although data might be created equal, that's no necessary reason for it to be stored uniformly. "Businesses need to take a close look at the data types being stored," says Watson. "The bulk of data is often 'cold' [i.e., data that is not frequently accessed or actively used], therefore migrating this away from primary storage, and onto a less-expensive archive

storage platform, can help balance the budget. Organisations should look at ways to free-up primary storage by moving data onto a more cost-effective alternative, rather than purchasing more capacity."

"Many organisations are required to retain data over long periods, but up to 70 per cent of everything they generate is typically redundant, obsolete or trivial," reports Campbell. "Primary storage solutions quickly reach capacity, this means more investment is needed. Add to this the ever-growing need for increased data security and 24/7/365 data access, and it's clear that solutions like magnetic tape, say, are no longer fit-for-purpose."

Stuart Gilks, systems engineering manager at Cohesity, avers that, essentially, storage ROI is about "Maximising value and minimising total costs – [and] not just whether your storage was inexpensive to purchase... We can think about this more broadly by considering questions like: how much does it cost to migrate all [your] data, and support it during its lifetime? What are the operational costs to run that infrastructure for three-to-five years? Are you getting the maximum value out of this data [while it is being stored]?"

## Know your data

Taking such considerations as start points, quantifiable storage ROI calls for more in-depth understanding and classification of the data to be stored: is it currently integral to line-of-business applications – and if so, for how long? Can cost-efficiencies be found by implementing a long-term strategy to re-migrate data as it gets older – or 'colder', in storage parlance.

"When taking ROI into account, as a consideration for data storage provisioning, you need to understand not just the physical asset costs, but also the cost of the business use (or loss of use) of the data that is stored," says Caley. "This radically changes the ROI calculation before even looking at more hidden cost factors."

According to Watson, "Many organisations end up keeping data on their expensive primary storage when it could be offloaded elsewhere. Understanding what data is 'hot', or what is 'cold', can significantly help when it comes to ROI.

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### "IT leaders may also want to think about how efficient their data solution is."

Stuart Gilks,  
systems engineering manager,  
Cohesity

Businesses should also consider factors such as what data can be moved or even eliminated, and what could be archived and stored more cost-effectively".

A habitual tendency to retain as much data as possible 'just in case' can also inadvertently undermine effective ROI, Watson says. "By optimising storage and matching it to the data needs when it comes to performance, capacity and accessibility, businesses can help maximise ROI."

Data management and compression regimes are another variable in the storage ROI equations, says Gilks. "In addition to the points above, IT leaders may also want to think about how efficient their data

solution is, along with the actual usable capacity versus the raw storage capacity. For example, 1Pb of raw storage capacity might sound like a lot; but the face-value capacity is not the same as its effective working capacity. Vendors often have a recommended maximum usable capacity, and deployments will typically require drive resilience. If a storage system uses simple mirroring, then 1Pb could easily become as little as 350Tb (with drive mirroring at 70 per cent utilisation)."

That said, Gilks continues, raw storage capacity can be configured to provide resilience in different ways, and the storage system might support deduplication, compression and erasure coding technologies to maximise its utilisation: "With a utilisation of 85 per cent, plus efficient erasure coding and in-line deduplication and compression, that same headline 1Pb raw capacity can commonly store nearly 10 times the amount of data. The important thing is to check."

"It might [come as a surprise], but the most revealing means through which to measure storage ROI are often hidden, and not necessarily tangible, metrics," says NetApp's Grant Caley. "For example, every gigabyte of data you store is really just the tip of the iceberg – underneath are costs for floorspace, power, cooling, staff, management and additional data services." All these have to be factored into both ROI and TCO, Caley insists.

"Hindsight is 20/20. Comparing actual to predicted TCO and ROI figures allows IT to measure its predictability and improve future investment decisions. What was planned, what was promised – and what was measured. For example, when planning a project, very few businesses go back halfway through it to see what the business value

actually was. In other words, 'how much did this really cost us? Did we realise the intended (and any additional) benefits?'" says Gilks. "This is a really crucial thing for businesses to understand, because they have to know if they're getting the value they think they're getting for their IT projects."

### Can automation help ROI?

One way in which that understanding by business might be enhanced is through the deployment of automated management tools. These can help to significantly reduce time management, create a more efficient environment, and speed-up mundane IT processes – all of which help boost ROI, says Watson: "In addition, with IT administrators focused less on storage admin tasks, they can focus efforts on adding business value elsewhere. Furthermore, automation can help to boost security and data protection features. With regular automated backups, snapshots and replication, organisations can ensure valuable data is backed-up and ready when needed."

Tools that automate capacity planning and predictive analytics can also "substantially assist in reducing operational costs and avoid issues that might otherwise arise as a result of unbudgeted or unplanned upgrades," agrees Gilks. "Predictive analytics works as an advance warning system for businesses. These systems can include predicting failures of components, allowing replacement before service is impacted, storage capacity planning, performance and slowdown prediction, and predicting service level agreement and compliance breaches as load increases."

"The latest in data management technology frees-up expensive primary storage by offloading infrequently accessed

data to the cloud where it is not only secure, but crucially readily accessible," Campbell points out. Speed of access in the event of disaster recovery evidently constitutes an element of ROI if it helps the business get up and running faster.

"Advancements such as Artificial Intelligence are hugely improving the capabilities of predictive analytics, and they are becoming increasingly widely used as a result," says Gilks. "There are also vendor support ecosystems... Cohesity's Helios solution, for instance, was built to [help] administrative efficiency for businesses and provide a



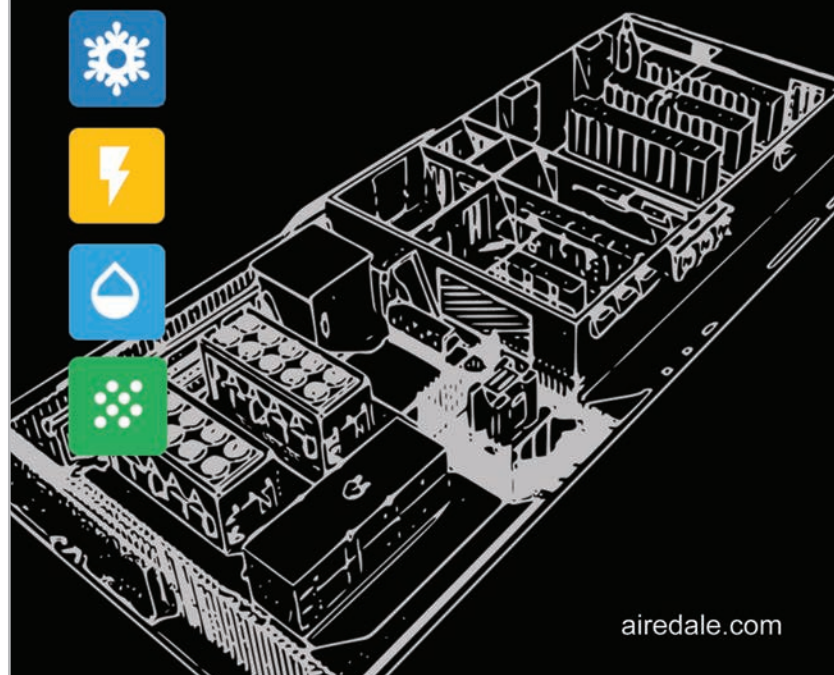
### "ROI certainly still matters when it comes to on-premise data storage provisioning."

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## Pitfalls and parallels

When assessment data storage ROI is made, there are certainly a few ‘watch-outs’ that IT managers should be aware of, cautions NetApp’s Grant Caley: “For example, having the tools to provide visibility of what storage a business has, and of all the attendant copies (backup, disaster recovery, etc.) is of utmost importance. Remember, disk cost is not the only factor. Consider the costs of providing the services you wrap around that data, such as management, security, disaster recovery, backup, availability and reliability. [So, when you take into account these additional factors,] the calculation is not as straightforward as first thought...”

“Lack of visibility leads to choosing ‘point-solutions’ that only solve one part of the problem, and usually require more work some time later on as they did not solve the root cause,” says Brown. “When that happens, budgets get spent inefficiently, a lot of expenses happen without planning as we have a fire to put out ASAP, and the budget is drained.”

The biggest pitfall for Gilks is in just getting a complete view of costs: “It sounds simple, but it can actually be immensely complicated... network managers, say, must think about the cost of facilities (which are often not borne by IT), which includes running and cooling power, space, security staff, access management etc. Many IT leaders fail to accurately assess how many people exactly worked on the project or solution they’re calculating ROI on. Likewise, implementing a new storage system should include the costs of migrating the data, testing, switching, and then retiring the ageing equipment.”

Parallel running costs (typically a previous solution takes at least a few months to migrate from old to new) are also a consideration that is often missed, alongside the disposal of old equipment and sensitive data, which can often be a lengthy and costly process, Gilks adds.

“Many businesses may simply look at outgoing costs when it comes to storage ROI; however, storage can offer a greater value that can sometimes go overlooked,” thinks Watson. “Business continuity, data protection and safeguarding the company’s reputation – these are all difficult to put a price tag on, but the ROI [they might deliver, given the

circumstances] is significant.”

“The true price a business pays for archiving, though, can only be calculated after factoring-in the cost of administering tapes,” says Campbell. “Tape is typically taken away and stored offsite in a vault, not networked. The subsequent delay in recovering or gaining access to data archived in this way makes organisations wary of archiving anything for fear of it being needed. So only really old data is archived, putting a strain on primary storage. The latest in data management technology frees-up expensive primary storage by offloading infrequently-accessed data to the cloud where it is not only secure, but crucially, readily accessible.” Speed of access in the event of a disaster recovery episode constitutes an element of ROI if it helps the business get up and running faster.

“Downtime, whether the result of human



**“Organisations should look at ways to free-up primary storage by moving data onto a more cost-effective alternative, rather than purchasing more capacity.”**

Gary Watson,  
StorCentric CTO,  
Nexsan Founder

error, natural disasters, or a malicious cyber-attack, can result in both financial and reputational damage,” says Watson. “However,

if you are able to recover, the business may not need to suffer – what better ROI [to the enterprise] is there than that? But this can be one of the most overlooked pitfalls– if the business doesn’t suffer the loss, it can be easy to forget what was saved.” ■



**“Primary storage solutions quickly reach capacity, this means more investment is needed.”**

Thomas Campbell,  
Technical Services Director,  
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# Avoid the traps

What's in your data centre? These products will help you to find out. First, read MARTIN HODGSON's tips on how to choose



Selecting, implementing and handling a data centre infrastructure management (DCIM) product can sometimes feel more taxing than simply continuing without one. But that shouldn't be, and is often not the case. The main purpose of a DCIM product is to alleviate the administrator's workload, not add to it.

With various factors to consider – from environmental to physical security – DCIM organisations must safeguard their equipment, secure restricted areas and ensure those authorised are allowed appropriate access; all while upholding availability and preventing downtime. This is where network monitoring comes in.

Opting for a DCIM product that provides holistic monitoring of all relevant infrastructure and processes is key; whether gaining an insight via a high level operations centric dashboard or a detailed deep dive into specifics using a mobile app. It should provide administrators and users alike with an appropriate insight into the health of their systems, empowering them to act swiftly on this intelligence.

So how to find the right tool? The old saying is still true – try before you buy. As consumers, we tend to veer towards the cheaper, shinier options, often without

considering the long-term effect. Unfortunately, IT teams are not immune to this persuasion – particularly if procurement are involved in the buying process. However, more often than not, those who buy cheap end up buying twice.

To tackle this, first consider why and how you will best utilise a DCIM product. Once the fundamental needs and uses have been tied down, it's important to trial products before committing. Many companies offer free trials – you might find that your needs are different from what you envisioned.

For instance, sometimes buyers will soon realise that the licence doesn't actually cover what they need. But there are products that have one licence which covers everything – from physical networking, OSes and apps, through to virtualisation and cloud services. Selecting a product like this avoids the trap other vendors lay for the unwary. Trying before buying highlights the pros and cons before you make a commitment. The bottom line: do your research – understanding your needs and the needs of your user community before trialling products will save a lot of time and money. With so many different DCIM products on the market, it can seem an overwhelming task; the key is to find one that not only provides you with one holistic platform and provides its intelligence in a clear and manageable way.

Martin Hodgson, country manager, UK & Ireland, at Paessler

Just launched in the UK and Europe, **Schneider Electric's EcoStruxure IT Expert** – a subscription service – works with smartphones as well as PCs.

The thinking is that users are unlikely to be deskbound but out and about in the facility or beyond.

Schneider says it is the first cloud-based product of its type. It enables secure monitoring and visibility of all IoT-enabled physical infrastructure like secure power and cooling – including the new, cloud-enabled Smart-UPS with APC SmartConnect.

It says IT Expert



simplifies the management of data centres, distributed IT and local edge environments. Real-time recommendations, performance and alarming data, mean it can significantly cut alarm noise and improve overall site resiliency.

Schneider says configuration and firmware updates are simpler and faster with IT Expert; it is vendor neutral; and the subscription model means deployment and updates are easy.

Remote monitoring is carried out round the clock by Schneider partners or through the company's own Electric Service Bureau with EcoStruxure Asset Advisor. Both, says Schneider, help to troubleshoot and dispatch service teams to reduce the time to repair and to improve system availability and performance.

It says that 1,400 customers are connected on the EcoStruxure IT platform, managing 140,000 assets.

**Cormant** has brought out version 10 of its DCIM product, 16 years after it was first launched.

The latest version of *Cormant-CS*, wholly HTML5 web-based, is said to be 50 per cent brand new or significantly improved.

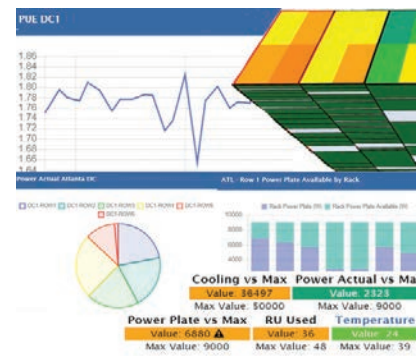
Cormant says it includes enhanced graphics, an updated conduits module, improved equipment management, dependency analysis, greater mobile platform support and new mobile auditing for equipment and connections. Seeing the big picture has never been easier, says Cormant, because in the new version all DCIM data is automatically cross-referenced to parent, child or connected devices. And it continues as a single complete solution so it can be grown as needed.

Cormant-CS, says the company, runs on any modern browser on PC, Mac, tablet and phone includes; full support for mobile equipment and barcode scanning using either a tablet/phone camera or any connected barcode scanner.

Using physical connectivity information to supplement logical

connection data from integrated network management solutions, Cormant-CS is said to provide greater visibility and faster problem resolution

Cormant points out that a single connection mistake can cause massive outages or a security breach. In Cormant-CS changes can be seen in real-time and it records all connections and provides redundancy and capacity analysis, incorrect connection warnings and capacity recovery.



Big data is a challenge to IT professionals – how can they process the high volumes to evaluate and use it meaningfully?

**FNT Software** has brought out a product which it says will help.

Called *FNT Analytics*, it provides an interface to the infrastructure data in the company's management and documentation software, FNT Command.

By giving users a better understanding of relationships and effects with new evaluations, the company says, they can



make improved operational and strategic decisions that increase the performance of their IT landscape in the long term.

Features include geo-referenced analysis of construction and network rollouts; it collates files – such as emails and databases – through more than 100 connectors – to allow analysis of complex correlations; and graphs can be made to show productivity by department or to examine SLA performance.

The company says users can recognize trends and bottlenecks in the data faster by using graphical representations, and take appropriate action.

FNT has also brought out FNT Command 12, a new version which includes a modernised HTML interface and expanded integration capabilities.

DCIM need not be costly and complicated, says **Rack-Sec**, which has just introduced the latest in its Edge range, *Mini-DCIM*.

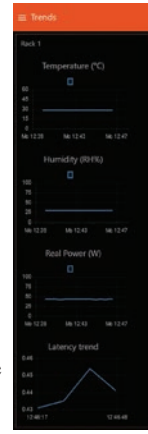
Mini-DCIM will monitor rack temperature, humidity and power use with the levels presented live on a master unit dashboard.

The rack footprint can be viewed with green, amber and red indicators; and charts showing trends can be created (pictured: example of single rack trends). Alerts can be instantly sent by email and SMS when pre-set levels are reached.

Rack-Sec says that Mini-DCIM and its R-Edge products are designed, manufactured and supported in the UK.

The R-Edge range offers further features, such as monitoring fault indicators; a camera to record the image of anyone opening a rack door; electronic swing doors; and door handles fitted with RFID to read site cards.

Rack-Sec says the R-Edge master unit can be customised to accommodate most interfaces, set up costs are minimal and there are no licence fees to pay.



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# IT recruitment slowing down due to skills shortage

Demand for IT and computing staff across the UK reached its lowest rate in 28 months in January, according to the latest Report on Jobs published by auditor KPMG and the Recruitment and Employment Confederation.

Vacancies rose for both permanent and temporary roles across the UK, with IT managers and infrastructure analysts appearing in the first list and cyber security in the second.

The IT and computing permanent vacancies index registered well above the neutral 50.0 level at 61.1 in January. The report said that although the reading was consistent with a sharp rise in demand, "the latest figure was the lowest seen in 28 months". Across the ten monitored job categories, IT and computing was the third best-performing sector for permanent staff vacancies and continued to outperform the UK average (59.2).

It was a similar story for temporary vacancies, which also increased at a slower pace at the start of 2019. The respective index posted 56.3, down from 58.0 in December, to point to the joint-slowest rise in demand for 28 months in January. The increase in short-term IT vacancies was also softer than seen for temporary staff across the board in the UK (58.5). Overall, IT & Computing ranked sixth in the temporary job sector rankings.

Ian West, head of TMT at KPMG UK said while hiring continued at pace across most areas of the economy, "it is clear that the industry is suffering from a skills shortage", with recruiters struggling to meet demand for roles. "Such shortages are driving employers to really look at their 'grow your own' strategies both from an acquisition of talent perspective and via structured development programmes," he said. "Businesses will want to see this addressed as soon as possible, with measures to boost apprenticeships and other routes into these roles."

## Email course for IT admins: bandwidth monitoring

Network monitoring specialist Paessler has launched its six-part Free Email Course on Bandwidth Monitoring.

Paessler said monitoring bandwidth helps IT admins to ensure availability of the relevant IT structure and is made up of four methods: SNMP (Simple Network Management Protocol), Packet Sniffing, Flow and WMI.

Bandwidth monitoring means tracking the bandwidth usage of leased lines, network connections, network devices (routers, switches, etc.) and the like. The monitoring tools can also be used to alert administrators when network load issues occur, or bandwidth thresholds are breached.

According to the website, other benefits gained from monitoring bandwidth, include avoiding bandwidth and server performance bottlenecks, finding out which applications or servers are using up your bandwidth, delivering better quality of service to users, reducing cost by upgrading bandwidth and hardware only when necessary and identifying Shadow IT in the company. The course went live at the beginning of March. Visit <https://www.paessler.com> for more information.

Meanwhile, in September Paessler will launch All you ever wanted to know

about SNMP. IETF1 developed SNMP in the late 1980s and is still in use today. Paessler will examine why it is still used as a standard protocol and what the future holds. It will also show how SNMP works and what the alternatives are.

## IN BRIEF...

■ QA has launched a "bespoke closed executive enablement workshop" that addresses the potential risk and value that data brings. According to its website, "Current catalysts for this are GDPR, various data scandals, as well as the positive impact Data Science and Data Analytics can have on delivering tangible value". QA has developed a curriculum with Caroline Carruthers – author of 'The Chief Data Officer's Playbook' – to help executives and senior stakeholders understand and learn how to deliver

transformational value from their Data. The three-hour long course is delivered by industry thought leaders suitable for C Suite leaders and C Suite +1 levels. Visit <https://www.qa.com> for more information.

■ Analysis carried out by jobs board Indeed found that six of the 10 jobs with the highest proportion of "hard-to-fill" vacancies are in the tech and systems sector. System engineers (40.24 per cent), software test engineers (39.86 per cent) and full stack developers (39.76 per cent) are roles that generally take over 60 days to fill. Indeed UK managing director Bill Richards said of the "hardest to fill" roles have historically been ones that were taken by EU workers drawn to the UK by Britain's more abundant job opportunities. "With official data showing net migration from the EU slowing, these roles are set to become even harder to fill," he added.

■ Cloud Technology Solutions in Manchester has demonstrated its commitment to attracting young talent to the sector by hiring 12 new graduates to strengthen the company's Google Cloud Platform offering. The company consults globally and helps businesses to work collaboratively, modernise IT systems and innovate with data through predictive analytics and machine learning. Handpicked as part of a graduate scheme programme organised in partnership with QA Consulting, the 12 join CTS as the company experiences growth, following its merger with Dutch data science and machine learning experts Qlounder. "A key priority for us as we continue to expand is to recruit exciting young talent that can lay the foundations for the future of the company," said James Doggart, chief executive officer at CTS.



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