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Heathrow's new Terminal 2 boasts a state-of-the-art network from Fujitsu News, p3⇨



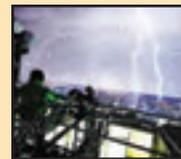
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Data centre technology out of date and not “fit for the future”

by Rahiel Nasir

Data centres are “not fit for the future”, according to new research from Zenium Technology.

In its *Motivation to Modernise* study, the company found that in spite of an improved level of general awareness in the market for greater flexibility, agility and the ability to adapt faster to change, only five per cent of data centres were considered “state-of-the-art”.

Zenium’s research was based on an independent survey carried out by Dynamic Markets who interviewed 210 senior IT professionals in the UK and Turkey (Zenium operates a data centre in Istanbul). The respondents were those who had responsibility for their company’s data centres from an operational and/or strategic perspective.

In the survey, a “staggering” 94 per cent

of senior IT professionals admitted their in-house data centre is technologically out of date. One-in-ten said that their centres were long overdue a complete overhaul, whilst a further 41 per cent said some of the technology in use is no longer current.

The report also revealed that only 25 per cent of respondents felt that C-level executives are on board with data centre modernisation plans. Zenium says that this suggests a “degree of denial” about the need to start embracing future plans now.

“The disconnect between what is in place and what is needed for the future is very worrying,” says Franek Sodzawiczny, CEO, Zenium Technology Partners. “There is massive demand for increased storage and computing power to manage huge volumes of data, and the impending impact

of the Internet of Things will only exacerbate these problems.”

Sodzawiczny believes the biggest issue in the data centre today seems to be ensuring that the executive board – which ultimately holds the purse strings – recognises the need for substantial investment in data centre projects.

“It’s not just about increasing the IT budget; it’s about ensuring the right systems and infrastructure are in place to continue operating effectively in a digital world.”

Citing a 2013 Gartner survey into UK data centre investment, Sodzawiczny says two out of three respondents had projects planned, more than 70 per cent of those planning projects had budgets allocated, and 87 per cent of those with infrastructure modernisation or upgrade projects also had plans for data centre facility projects in 2013/2014.

“This ought to be considered a positive sign. But the fact that [94 per cent] of the respondents that took part in our survey still consider their data centres to be out of date shows there is still a very real need to get motivated to make modernisation

the top priority going forward.”

Data centres are one of the biggest investments on the IT manager’s shopping list and probably the most risky and or costly to get wrong, according to the Data Centre Alliance’s (DCA) executive director Simon Campbell-Whyte. “The report highlights the essential need for group involvement to regularly assess the risk and the long-term value of the data centre set up,” he says.

Campbell-Whyte adds that the EU Code of Conduct for Data Centres provides a valuable ‘best practice’ strategy to establishing policies for review, and advises IT managers to use it as a starting point to help deploy the correct strategies. ■

Zenium CEO Franek Sodzawiczny says it’s not just about increasing IT budgets – it’s about ensuring the right data centre infrastructure is in place.



Most IT managers are unaware of new European data laws

More than 81 per cent of IT managers across the European Union are unfamiliar with the new EU General Data Protection Regulation (GDPR).

The GDPR aims to unify data protection laws to meet the challenges of the digital age and in particular strengthen the protection of online personal data. The European Council aims for its adoption in late 2014 and the regulation is planned to take effect after a transition period of two years.

When enacted into law, it will require all businesses handling EU residents’ data to delete personal information on request or when it is no longer required by the organisation, and encourage the use of auditable deletion procedures for companies processing personal data.

Non-compliant businesses could receive fines ranging from €250,000 or 0.5 per

cent of annual worldwide turnover for less serious breaches, up to €100,000,000 or five per cent of annual worldwide turnover for more serious infractions.

But in a survey of 660 IT managers conducted by Kroll Ontrack and data erasure specialist Blancco, 61 per cent said that their organisations have not taken measures to achieve compliance with the pending regulation. More than half had not reviewed or adapted their data destruction policies, while 25 per cent admitted to not having such a process in place.

“Organisations still have a great deal of work to do to ensure they comply with the GDPR regulation,” says Paul Le Messurier, programme and operations manager, Kroll Ontrack. “Any business holding personal data on EU residents, be it online or offline, will have to abide by the new rules.” ■

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C4L's "significant milestone"

C4L is now running its *coreTX* MPLS network (see News, Nov 2013) in parallel with its existing Cisco network. The firm claims this represents a "significant milestone" in its rollout plan.

The Bournemouth-based connectivity and colo specialist says it raised considerable additional funding to deploy *coreTX* on entirely new and privately owned dark fibre routes between key data centres across the UK. As part of this, it has installed Juniper *MX480* or *MX960* routers at each PoP.

"As a result of some limitations in our initial rollout, we have redesigned the network," says C4L CEO Simon Mewett. "Although this inevitably caused a delay in rollout completion, *coreTX* will now be upgraded to a 100 per cent Juniper network, removing all interoperability concerns between multiple vendors."

C4L has already migrated all external connectivity and upstream Tier 1 providers from their existing networks to a new 100Gb dedicated fibre ring. The firm says its capacity planning, stability, traffic management and DDoS mitigation strategies are now enabling providers to start planning for full customer migration to *coreTX*.

As well as creating several shorter paths for traffic and utilising all the available fibre to keep latency to a minimum, C4L has commissioned new fibre links, each with N+2 failover paths configured by default.

It also claims a new suite of diagnostic tools have closely monitored its network and seen no outages – despite various real and simulated network traffic events. ■

Gigabit internet speeds promise to "revolutionise" business in Kirklees

CityFibre plans to build a dedicated network for businesses in Kirklees. It claims the *Kirklees CORE* will be a state-of-the-art, future-proof network that will bring transformational gigabit speed connectivity to thousands of firms in Huddersfield, Dewsbury and Batley.

Construction on the network is due to begin at the end of 2014 with the first businesses being connected from March 2015.

The size and route of the *Kirklees CORE* will be determined by demand from local businesses. In early November, CityFibre launched its online *Gig Up Kirklees* campaign to encourage businesses to register their interest. It said that the more businesses register in an area, the more likely the network will be extended to them.



CityFibre says the size and route of the *Kirklees CORE* network will be "demand-led".

CityFibre CEO Greg Mesch said: "No longer reliant on the antiquated copper networks, Kirklees businesses will have the

capacity to position themselves at the heart of the UK economy as the technological revolution continues to gather pace. It's crucial that as many businesses as possible can benefit and to ensure that, we urge you to register your interest."

This development follows CityFibre's plan to build an 80km pure fibre network to deliver connectivity for public sector services in collaboration with Easynet.

With a network in 57 towns and cities, CityFibre claims to be the UK's largest independent provider of pure fibre infrastructure. It has also begun Gigabit City projects in York, Peterborough, Coventry and Aberdeen, where metropolitan-wide pure fibre networks known as *COREs* bring the benefits of gigabit internet speeds. ■

Data storage more efficient with hybrid platform

International Decision Systems (IDS) has implemented Tegile System's hybrid storage arrays to improve its data storage capabilities. From its worldwide offices and data centres, IDS provides software and consulting services to more than 250 banking and financial services in 34 countries.

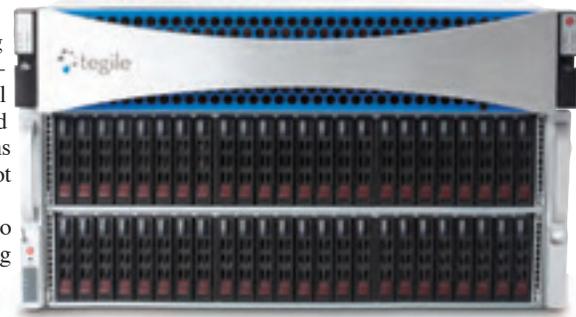
The firm uses servers that are mostly virtualised, as well as direct-attached enterprise class HDD arrays. Despite this, IDC began experiencing storage-based performance issues that impacted productivity

along with dwindling capacity.

IDS global IT director Craig Debban says that despite multiple frustrating and unsuccessful visits from EMC engineers and support team, the disk systems wasted performance and were not configured correctly.

As a result, it switched to Tegile's *HA2130EP* arrays along with two expansion shelves. The arrays combine high-performance DRAM and flash SSD with less-expensive HDDs, as well as a comprehensive set of data management and protection features. The hardware connects via IDS' existing mix of 10Gb and 1Gb Ethernet running both iSCSI and NFS protocols.

IDS stores nearly 18TB on the arrays, but it's claimed Tegile's data services such as deduplication, compression, snapshots, etc, have reduced that to just 4.58TB. "We are currently seeing 74.43 per cent



It's claimed the deployment of Tegile's system has led to data savings of more than 70 per cent for IDS.

savings in our data and I expect that to go up as we add more servers," says Debban. "With Tegile, the performance problems are gone. We went from noticing slowness to it no longer being an issue at all."

Cloning time on the firm's VMs is also said to have been reduced from 30 minutes to around three minutes. ■

No more 'one person, one desk' mentality for Medway Council

Medway Council is using virtualisation to enable flexible working for employees and reduce operational and IT costs.

The council provides services to a population of around 270,000 citizens in Kent. As part of the Agile Working programme, it implemented *Citrix XenDesktop* to virtualise desktops across the IT estate.

"Most local authorities are looking for ways to transform their services," says the council's head of ICT Moira Bragg. "At Medway, we have a programme looking for ways to drive efficiency: doing things better, but more efficiently. That includes working more flexibly to reduce the number of properties occupied by staff."

The deployment is being rolled out in stages. It has begun with the most complex departments, such as those scattered across many sites and using a wide variety of applications. Bragg's team has so far migrated the 500 most challenging of 2,800 desktops onto virtual desktops accessed via Dell Wyse thin clients.

As a result of virtualisation, Medway has also been able to consolidate Children's

Head of ICT Moira Bragg says Medway Council wants to work more flexibly to reduce the number of properties occupied by staff.



Services into a single building from the three it previously required.

The deployment has also led to more collaborative working. Hotdesking areas have been created within existing offices, dissolving what Citrix describes as the old "one person, one desk, one device" mentality.

The move is projected to save upwards of £1m over five years for the council. Cost savings are expected as a result of centralising hardware procurement and reductions in energy consumption of around 24 per cent.

Completing the desktop deployment will take about a year. A virtual telephony solution is also on the transformation list. ■

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Terminal 2 takes off with Fujitsu's help

Fujitsu has completed its £34m network infrastructure project for Heathrow Terminal 2, The Queen's Building.

The original Terminal 2 building opened in 1955 and was the airport's oldest terminal. In 2010, it was demolished as part of a £2.5bn transformation project which led to the development of the new building which opened in June.

Under a four-year partnership, Heathrow Airport Holdings (formerly the British Airports Authority) contracted Fujitsu to implement the terminal's entire integrated network backbone, benefiting both employees and passengers.

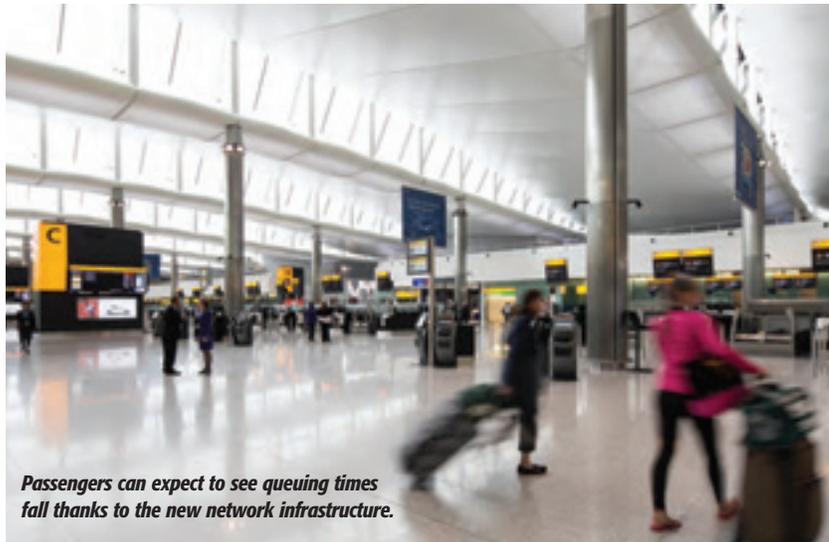
For example, Wi-Fi means staff can now work more collaboratively and receive information in real-time,

something that wasn't possible before. And passengers can expect to see queuing times fall as the new technology allows them to check-in at any desk, instead of at one designated to a specific airline.

The Fujitsu implemented infrastructure will also support key systems such as security, airport operation and building management, self-check-in, and bag drop.

The company adds that the success of the project has opened the door for other contracts at Heathrow.

For instance, it was recently awarded the Centre of Excellence for private mobile radio and cellular projects across the airport, and will therefore provide all radio and cellular requirements over the next two years. ■



Passengers can expect to see queuing times fall thanks to the new network infrastructure.

O2 moves to dedicated fibre to connect UK switching sites

Global bandwidth infrastructure services provider Zayo Group has been selected by O2 to provide and manage a fully resilient core fibre network throughout the UK.

According to Zayo, its 15-year deal with O2 marks a shift for the mobile operator. Previously, it used SDH and Ethernet-based managed services infrastructure but this latest agreement means it will move to a dedicated fibre optic network that connects mobile switching sites across its network.

The new infrastructure aims to provide O2 with flexible capacity to accommodate increasing demand for mobile data driven by its 4G rollout and increasingly digital customer base.

"With the O2 4G network now covering over 260 towns and cities and half of the UK population, there has been unprecedented growth in the amount of data traffic transmitted across the network," says Adrian Di Meo, O2's CTO. "A year after the launch of our 4G network, it has



THE WORLD ACCORDING TO...

Kieran Harty, CTO and co-founder, Tintri

How to solve the I/O blender effect

Today, 70-80 per cent of workloads are virtualised and that number is only expected to increase. Businesses rely on VMs to run critical databases, but when any of these processes fail to perform, the business also fails, reaffirming the importance of having visibility and control over virtual environments.

Prior to the widespread adoption of virtualisation, I/O patterns were 'predictable' and storage was easy to manage. However, that is no longer true in today's virtualised reality. Picture the contents of a blender after you push the button – they're mixed up, hardly resembling what was there before. I/O is no longer predictable; rather, it looks like it has gone through a blender.

There are several problems arising from this I/O blender effect [also see *News, Jul-Aug*]. Firstly, the unpredictable nature of I/O blender patterns and concurrent access to the same resources can overwhelm controller caches resulting in degraded performance.

Secondly, scheduling and performing read/write arrays can have a significant impact on performance – especially if large amounts of requests from disparate systems are realised.

Thirdly, during VMDK file locking in block storage, all of the locking and unlocking can take a heavy toll on SAN and environmental performance.

And fourthly, operating system disk access relies upon placing data in blocks/clusters on disk. SAN relies upon placing data on blocks in the array of disks. A condition exists wherein the OS' block sizes do not match (by some factor) with the SAN's block sizes. This LUN misalignment can have serious impact on performance.

Firms can overcome these I/O blended effects by following these simple steps:

Adjust organisation of VMs for like workloads: this may involve different SAN configurations. Like workloads are more predictable and can be planned for.

Utilise storage offloading functions: this allows the storage system to more efficiently handle the operation, reduces pressure on the hypervisor, and helps reduce congestion on storage connections.

Understand the workload: this will help administrators ensure proper grouping of like workload types.

Expand and extend storage systems: in some fashion, this ensures the decisions you make now can be adapted, adjusted and enhanced to meet current and future needs.

Finally, by staying up to date with infrastructure technologies, bottlenecks can be reduced or eliminated. Utilising 'smart storage' that sees, learns and adapts, helps to effectively manage the virtual environment and provides more efficiency and productivity to businesses.

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already carried a total of 5,400 terabytes of 4G data, which is the equivalent of eight million hours of HD video."

Zayo's nationwide fibre network will use Geo Networks infrastructure which

the firm acquired earlier this year (see *News, May*). It stretches from Glasgow to Salisbury and spans a route of more than 4,500km, incorporating 19 connectivity points around the UK. ■

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Virgin trains get faster

Virgin Trains is upgrading Wi-Fi systems to offer customers significantly increased bandwidth as well as improved connection availability across all routes. It will use Nomad Digital's technology to deliver up to 12Mbps to Wi-Fi users on 56 *Pendolino* trains, and up to 8Mbps on 20 *Super Voyagers*. The upgrade is scheduled for completion during summer 2015. Nomad's on-board routers are also 4G-ready in anticipation of the completion of new trackside infrastructure by Network Rail. ■

Datatech expanding

Datatech UK claims its new data centre in Redditch is one of the most sophisticated server houses in the UK and among Europe's greenest. It is said to have capacity for 951PB, which is around 238 million DVDs worth of data storage. The Midlands-based firm has recently received investment to grow its business and says it will use this to increase its server capability, invest in new premises, and expand its fibre network. This currently reaches London, Amsterdam, Germany and Manchester and will soon provide connectivity to France, other areas of The Netherlands, and several locations in America. ■

Eversheds' big WAN

Corporate law firm Eversheds has deployed a Meru 802.11ac wireless network across eight countries in Europe, the Middle East and Asia to support up to 4,000 staff, clients and guests. The firm has recently implemented *Microsoft Lync*, and the new network aims to bolster its mobility strategy enabling flexible working and increased collaboration. The deployment includes 270 Meru AP832 APs. Each office is served by one of six regional hubs hosting a virtual Meru controller along with software to provide end-to-end management and network monitoring capabilities. ■

Annodata buys Keltec

Annodata has acquired Keltec. As a result, Annodata says it will have annual revenues in excess of £78m and 380 employees. Founded in 1998, Bracknell-based Keltec is said to have a "wealth of experience" in delivering end-to-end IT solutions to customers of all sizes. Annodata MD Andrew Harman adds that Keltec will enhance his company's hosting capabilities and consolidate its move into cloud. "Keltec will complement our existing service portfolio, which includes unified communications, managed print and document services, cloud and mobile device management." ■

File-sharing employees behaving badly puts corporate data at risk

Organisations are at serious risk of data loss and compliance violations due to risky file sharing practices, according to new research from the Ponemon Institute and SaaS specialist Intralinks.

In a study entitled *Breaking Bad: The Risk of Unsecure File Sharing*, the researchers found that employees routinely breach IT policies and place corporate data in jeopardy. It said that managers are failing to respond to the escalating risk of unsecured file sharing practices among their staff.

Among the more than 1,000 IT security professionals in the UK, US and Germany surveyed, 49 per cent said their company lacks clear visibility into employee use of

file sharing/file sync applications. While the majority of organisations have policies governing the use of file sharing, respondents said these policies are not being effectively communicated to employees.

Around 61 per cent of employees confessed to having done one or more of the following: often or frequently accidentally forwarded files to individuals not authorised to see them; used personal file-sharing/file sync-and-share apps in the workplace; shared files through unencrypted email; or failed to delete confidential documents or files as required by policies.

"Data leakage and loss from negligent file sharing is now just as significant a risk as data theft," says Ponemon Institute

Ponemon Institute chairman Larry Ponemon says firms are ill-prepared to protect themselves against their staff using consumer-grade file sharing apps.



chairman Larry Ponemon. "While most companies take steps to protect themselves from hacking and other malicious activities, this report shows that these same organisations are entirely unprepared to guard against risky and unsecured file sharing using consumer-grade applications like *Dropbox*." ■

Interoute offers "fastest-growing" IaaS platform

Interoute has launched two new Virtual Data Centres (VDC) in London and also plans to open its second zone in Germany.

The new facilities bring the company's total number of global VDCs to 12. The UK locations include London's Canary Wharf and a second site in Slough. It's claimed these two new zones were deployed in less than 12 weeks.

Next month sees the launch of a VDC in Frankfurt, adding to the zone in Berlin that opened in 2012.

Interoute says its VDCs enable customers to tailor provision and control compute, storage and network infrastructure on demand, and on a global scale. Other VDC zones launched by the firm in 2014 include Milan, Hong Kong and New York.

The operator claims to offer the fastest-growing enterprise IaaS platform in the European market.

It says users can now benefit from speeds as low as 1.3 milliseconds for sending a data packet from one new London zone to the other and back, or down to 68.2 milliseconds between the London and New York zones. ■

Draka secures an away win at Hotel Football

Draka's *Universal Cabling Connect (UCC)* system will be installed throughout Hotel Football which is currently being built next to Manchester Utd's Old Trafford stadium.

The £23m themed hotel will feature 139 rooms across seven floors, a ground floor restaurant and shop, a mezzanine lounge, and a first floor conference space. It will also be home to the Old Trafford Supporters Club. The building is crowned by a rooftop mini five-a-side football pitch which doubles as an events venue.

The space saving Cat6 *UCC* system was proposed by Abzorb, one of Draka's partners, after it secured the contract to install the voice and data network cabling and a 200 point digital TV distribution platform at the prestigious development.

Draka says *UCC* is a complete cabling system for enterprise and data centre communications networks. "Contractors



Hotel Football is being built next to Old Trafford and will feature a rooftop mini five-a-side football pitch.

can be confident in the cable's quality, which has approvals as part of a three-connector link and four-connector link channel," states the firm. "As with all Draka *UCC* branded cables the product comes with third-party approval for cable performance."

Hotel Football is being developed by GG Hospitality, a management company set up by former Manchester Utd players Ryan Giggs and Gary Neville and The Old Trafford Supporters Club. It is due to open by the end of the year. ■



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IT departments are underestimating the 'shadow IT' problem

The use of mobile cloud apps is becoming more popular in enterprise, but the vast majority are not "enterprise-ready" according to a new study.

Netskope's latest quarterly report, which monitors cloud app usage trends, reveals that nearly half of all cloud app activity now occurs on mobile devices.

Based on aggregated and anonymised data from the *Netskope Active Platform*, the findings are based on tens of billions of cloud app events seen across millions

of users between July and September 2014. It found that enterprises are continuing to adopt cloud apps at a fast pace, with an average of 579 cloud apps per organisation in Q3, up from 508 in the previous quarter.

Additionally, 88.7 per cent of apps are not enterprise ready, scoring a "medium" or below in the *Netskope Cloud Confidence Index*. This is a database of more than 5,000 cloud apps that are evaluated on over 40 objective enterprise-readiness criteria adapted from the Cloud Security Alliance.

Sanjay Beri, CEO and founder of Netskope, warns that all this makes it even more difficult for IT to keep tabs on sensitive corporate and customer data on user-owned devices: "While IT is increasingly aware of the 'shadow IT' problem, it continues to underestimate actual app usage and the associated risks by a considerable margin."

The report also identified the top 20 apps used by enterprises based on distinct app sessions. *Google Drive*, *Facebook* and *Twitter* occupied the top three slots respectively, whilst enterprise apps such as *Salesforce*, *Microsoft Office 365* and *WebEx* ranked 11th, 15th and 17th respectively.



Top 10 cloud apps enterprise users are most likely to access from a mobile device.

SOURCE: NETSKOPE CLOUD CONFIDENCE INDEX



VIEW FROM THE TOP

Peter Groucutt, managing director, Databarracks

Cloud: the more services you adopt, the less you worry about security

The perceived security threats associated with cloud become less of an issue as businesses adopt more services. This is according to Databarracks' latest annual Data Health Check report which surveyed more than 400 IT decision makers from organisations of various sizes and industries in the UK.

It revealed that 81 per cent of respondents that had not adopted cloud services rated security as a top factor to consider when selecting a potential provider, with core factors such as functionality scoring as poorly as 38 per cent.

However, once an organisation has adopted two or more cloud services, the importance of security falls to just 44 per cent, with factors such as provider reputation becoming more important overall.

This isn't a case of security becoming less important as you adopt more cloud services – data security is always going to be a priority for both the organisation and the provider. What we're actually seeing is organisations moving past the 'fear of the unknown', as they experience cloud services first-hand.

We've been hearing it for years: security is the biggest inhibitor of cloud services. Cloud service providers have been striving to change that perception, so it's promising to actually see the attitudes change as the market matures.

Once an organisation actually uses a cloud service, it realises that the practicalities of working with a provider – the functionality and the location of their data centres – become far more important than the security risks they once feared.

Past research has always highlighted security as a big factor in the decision-making process when buying cloud services. But that is changing. Ongoing studies from the Cloud Industry Forum show cloud adoption levels are rising year-on-year. The forum's most recent research highlights that when businesses now face major IT refreshes, most are actively considering cloud services.

We've transitioned from a time of businesses learning about and testing cloud services, to them really understanding what they need the services for and how to make the most of them.

BT launches enterprise class cloud-based voice services

BT has launched a new business-grade IP voice service that uses cloud technology. Aimed at SMEs, it claims *Cloud Voice* is a cost-effective business solution delivering "great call quality and reliability".

In addition, BT says users will benefit from a management system that ensures calls no longer go unanswered due to the service's intelligent call handling features.

Cloud Voice is available with three software licence options, ranging from an entry-level *Basic* service to *Cloud Voice Collaborate*. The latter is designed for mobile or home workers who want to be able to use additional features such as audio and web conferencing, and make calls via multiple devices.

Users only need a *BT Business* internet connection and an IP phone to make calls across single or multiple office locations. All calls run over the *BT Business* network

and users are supplied with an IP phone and a call plan. Minutes are purchased at a company level, and the plans are designed to be shared amongst users.

Service setup is managed via an online portal. BT says this gives administrators the flexibility to add new or additional users and set preferences, such as call forwarding and call waiting, without the need for any engineer visits.

The firm says that as *Cloud Voice* is a hosted solution and requires limited upfront investment, there are no separate maintenance contracts and businesses can simply add users or minutes as they grow through additional software licenses.

BT adds that the service manages call traffic back to its national network, claiming that neither call capacity nor quality is affected by surges in company data or internet traffic.

Azzurri offers "unprecedented insight" into managing UC

Azzurri Communications reckons its cloud-based *Communication Service Manager (CSM)* will help organisations optimise the commercial, operational and technical performance of their unified communications.

According to the cloud and managed communication services specialist, *CSM* delivers "significant" commercial, operational and technical benefits. It can help IT teams responsible for UC to fully utilise their estates, right-size their infrastructure, and help remedy issues such as call quality.

CSM is initially available to offer what's described as "unprecedented insight" into Avaya's UC, telephony and contact centre platforms. Mitel systems and *Microsoft*

Lync will be added in the coming months.

Azzurri says the service can be deployed and become fully functional within 24 hours. It is charged on a monthly basis and can be taken as a cloud-based tool or as part of the vendor's managed service.

CTO Rufus Grig claims *CSM* will make managing communications systems for large organisations simpler and cheaper.

"[It will] help companies to make sure they're getting the most from their investments in communications – from making sure the technology is working at maximum performance, to making sure that software is neither over nor under-licensed, enabling capacity planning for the future."



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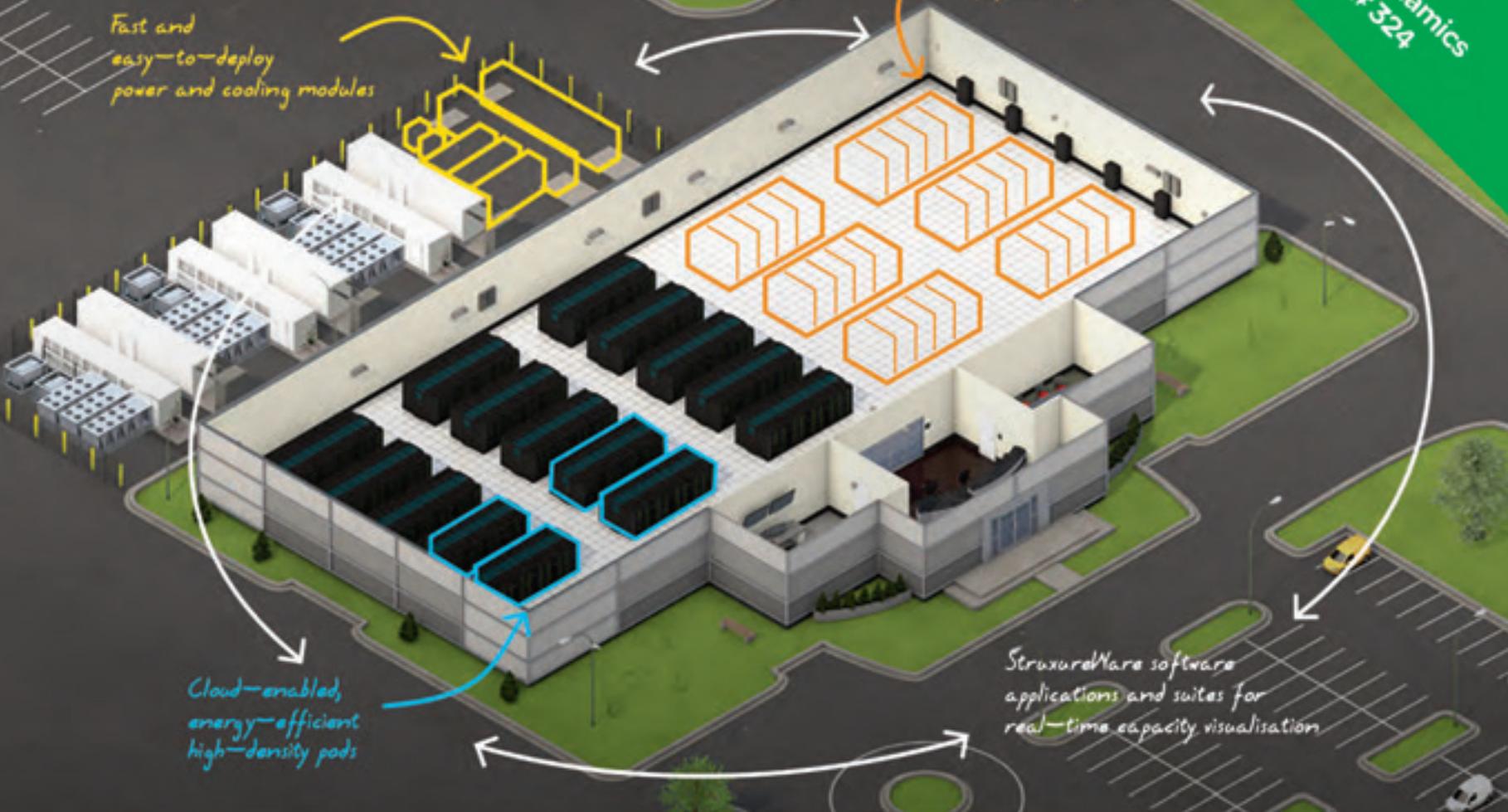


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Law and ordered IT systems

With strict rules governing the storage and backup of their critical data, legal firms need IT systems that offer high security and resilience.

Disaster recovery in a virtualised environment

Rothera Dowson Solicitors has been providing legal advice and services for nearly 200 years. With several offices in different locations, strict regulatory procedures to follow, and an ageing tape solution, its IT team faces many challenges, especially since the firm was going through the delicate process of migrating to a virtualised platform.

With around 90 users spread across four branch offices and a head office in the centre of Nottingham, the company had developed a sophisticated setup to ensure its IT infrastructure supported every geographical location while meeting its day-to-day operational requirements.

Even if offices had only three or four staff, each was connected to the head office data centre via a terminal server, making the IT infrastructure in a small branch as complex as an office supporting 100 staff.

Rothera Dowson's existing tape backup solution had become outdated, stored data uneconomically, and was also slow and difficult to restore from in the event of a system failure. When the decision was made to migrate to a virtualised platform, it became apparent the system wouldn't be up to the job of protecting data. Furthermore, any new recovery solution would need to comply with the Solicitors Regulation Authority (SRA).

Rothera Dowson developed a reliable solution based on Unitrends' *Recovery-712* appliance at its head office. A second virtualised appliance is deployed at one of the branch offices, and uses Unitrends' software to replicate everything backed up by the *Recovery-712*. The branch office acts as the firm's recovery site. In the event of a disaster at head office, staff can decamp to the branch and remain operational. "The Unitrends software has been installed on a virtual server using our own hardware," says Stefano Pratesi, principle IT consultant

for Rothera Dowson. "The software has its own interface so it looks and works exactly like Unitrends [*Enterprise Backup*] appliance. Using a mixture of Unitrends hardware and our own has allowed us to deploy a hybrid solution in effect."

In addition to the *Recovery-712* and *Enterprise Backup* unit, an archive backup of the system is taken off site each week.

Fully managed private cloud for 25 Bedford Row

25 Bedford Row established its chambers in 1975 and specialises in the defence of individuals and companies across the entire spectrum of criminal and regulatory law, including fraud, human rights and civil liberties.

With the increasing use of BYOD and staff requiring 'anytime, anywhere' access to data and systems, the London-based practice had to ensure it met the needs of its 68 barristers and 10 support staff. Due to the fast evolution of the IT industry, it also wanted a way to keep up to date with the latest software and security. Cloud offered the way forward.

After a rigorous tender process, the firm selected Premier IT's *Fully Managed Private Cloud (FMPC)* service. Before being awarded the contract, the supplier was rigorously assessed by the Ministry of Justice to provide *Criminal Justice Secure eMail (CJSM)*.

According to Premier, the deployment process was quick and efficient – from signing the contract to going live took just eight weeks. It began with one of the company's engineers conducting an audit of Bedford Row's infrastructure. A new lease line was then ordered to facilitate improved service delivery for the *FMPC* service which was set up in Premier IT's UK-based data centre. The legal firm's data was migrated from its on-premise servers via the internet.

To minimise costs, existing desktops were retained to connect to desktop and database applications via terminal services. A new virtual desktop infrastructure was also introduced to provide SaaS on a dedicated server within Premier's data centre. As well as *CJSM*, the software



provided also includes *Meridian Law Connected* as well as *Windows* and *Microsoft Office* products. Premier says the SaaS model allows the chambers to have a scalable infrastructure and ensures that it is always up to date with the latest software licences and security solutions.

Disaster recovery and business continuity are provided as part of the contract at no additional cost. Data is backed up incrementally and images of the servers are taken daily and stored at a separate DC.

Backing up the briefs

Specialist law firm Leigh Day only represents claimants, and from its offices in London and Manchester it works internationally for the rights of individuals against corporations and governments.

The company handles thousands of legal cases every year and over the past two decades these have generated a large amount of files and data. Data storage and security is critical for the firm and its clients, and in order to deal with its storage on a daily basis, Leigh Day needed to find a backup solution to support all its current and future work.

The firm's incumbent supplier provided a 'pay-by-capacity' backup solution. This was leading to escalating costs as it was being charged per gigabyte. For example, saving and using high-resolution data-heavy satellite images and using the pay-by-capacity model proved unworkable.

With 300 staff and new offices in Manchester, Leigh Day needed a more robust backup to accommodate its growth. It also used VMware and therefore needed a flexible infrastructure to suit this environment. Furthermore, it had to comply with regulatory bodies such as the SRA and the Data Protection Act to ensure

the safety and security of backed up data. IT reseller Covenco recommended Quorum's *onQ* backup appliance. Quorum worked with Leigh Day on a proof of concept test, during which it deployed *onQ* to protect two servers for two months, created a test server, and implemented a real-world disaster recovery fail back.

onQ is the building block of Quorum's disaster recovery and DRaaS capabilities, maintaining highly available, up to date VM clones of critical systems. The vendor claims the appliance is capable of efficiently taking over for failed servers within minutes, and worked "seamlessly" in Leigh Day's virtualised environment.

The firm has now deployed three *onQ* appliances and an *Archive Vault* at its HQ in London. The devices protect 20+ servers as well as the excessive amounts of data. They take a snapshot of the local production server every 30 minutes, backing up and replicating the entire server estate.

On a monthly basis the snapshots are archived, meaning that Leigh Day will always have access to its legacy data from the *Archive Vault*. With its perpetual incremental and deduplication technologies, the amount of new data that needs to be sent to the appliances per snapshot is usually quite small, minimising not only storage requirements, but also reducing the load on Leigh Day's LAN and WAN.

For added resiliency, Leigh Day opted to mirror the entire solution to Covenco's data centre, where an additional three *onQ*s and *Archive Vault* constantly replicate the activity in its London office to provide full disaster recovery capabilities.

The appliances keep up-to-date copies of the company's operating system, application and data files on both the local and remote appliances. It also keeps ready-to-run 'Recovery Nodes' standing by. If any of Leigh Day's servers fail, a node can be started with a single click and have the firm running again in minutes.

The entire backup process is totally automatic and doesn't require any additional hardware or software.



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The loss of landline connections due to extreme weather has a real impact on businesses that depend on voice and data communications for regular financial transactions.

Weathering the storm

BRIAN ANDERSON discusses how to maintain critical business network continuity for online transactions.

Severe weather can have severe economic effects. Goldman Sachs has estimated that little more than half of the US economic slowdown was due to bad weather at the beginning of 2014.

Earlier this year, many British businesses also got a taste of how extreme weather could knock out essential services. The loss of landline connections had a real impact on businesses that depend on voice and data communications for day-to-day work and doing regular financial transactions.

Electrical outages also meant systems went offline, adding to the pressure on network and IT managers to reset and reboot routers and computers once power was restored.

No matter what department or functional area within a business, ask any manager and they will agree that any form of downtime ultimately has a negative impact on a company's bottom line.

Recent research by the Chartered Management Institute revealed that the average cost of downtime for SMEs is £27,000 per hour, with this sum being higher for businesses reliant on e-commerce and reaching six figures for larger companies.

And it is not just severe weather that can knock out vital connectivity. The theft of industrial cables, including telecoms cabling, has become a massive problem in recent times. For example, in 2012 £770 million worth of copper cable was stolen, bringing down voice and data communications services without warning.

For distributed enterprises – companies

with two or more branch locations such as retailers, pub and restaurant chains, service kiosks, etc – the financial impact of service downtime is even greater. Loss of connectivity and the inability to process transactions can mean hefty financial losses and potentially lost customers.

When it comes to something as important as your livelihood, businesses can't afford to simply muddle through the problems and hope that connectivity will be restored soon. Having some contingencies for when network connections go down for minor or major reasons is a wise move.

Options for distributed businesses

Most organisations can turn a range of procedures to respond to a major incident and work towards getting systems up and running again.

But what network business continuity options are available for organisations with a distributed business model that consists of many small locations that are widely geographically dispersed?

Such organisations need adequate failover systems in place across all locations to handle any unexpected loss of connectivity. Whether it is a retail location, restaurant, kiosk, distribution centre or branch office, the order of the day is to maintain continuous connectivity to headquarters and secure payment processors.

What's more, a well-designed solution can do more than assure faultless connectivity – it can also deliver the added value of enabling quick, remote fixes when network troubles occur.

The ramifications of losing a network connection are severe, but the costs of having backup services can be extremely expensive.

There is an option to have entirely separate, redundant communications links into each location that can offer a switch-over facility. Such an option is, however, unrealistic for a distributed business with many different locations. Additionally, multiple links have inherent risks too as they may share the same conduit duct.

Another model for ensuring connectivity has been to insert a wireless USB in the available router port. Though this approach does offer some level of failover capability, there can be connectivity issues or poor speeds due to an IT closet that is in poor wireless coverage or has RF noise.

Selling the cellular network

For several years, mobile telecoms has offered the basis for a failover system using 3G. A good example of this would be Money Mart, a leading provider of affordable alternative financial services in the US. Money Mart embarked on a large-scale project to install backup connectivity at all retail locations. With stores in both urban and rural areas, the

firm couldn't always rely on a landline so it chose a wireless backup solution based on 2G and then 3G technology.

But as cellular networks have evolved and the need for higher speeds/bandwidth has also changed within enterprises, the opportunity to consider 4G for failover solutions has arisen.

4G offers much faster mobile broadband links than the original mobile internet 3G service. This means more data can be carried and the links themselves are inherently more stable and reliable.

While originally marketed to consumers, the opportunity of using 4G for business applications is becoming more attractive as the availability of access to LTE services spreads nationwide. So 4G could be the basis for a quick and efficient failover solution when a landline connection goes down from an everyday or exceptional network problem.

The key here is the mobile broadband speeds of 4G that can offer failover broadband connectivity at similar or even higher speeds to ADSL links. Currently, peak 4G download speeds of 100Mbps and uploads of 60Mbps are achievable in a failover situation, allowing enterprises to keep their branch locations up and running smoothly.

4G for failover

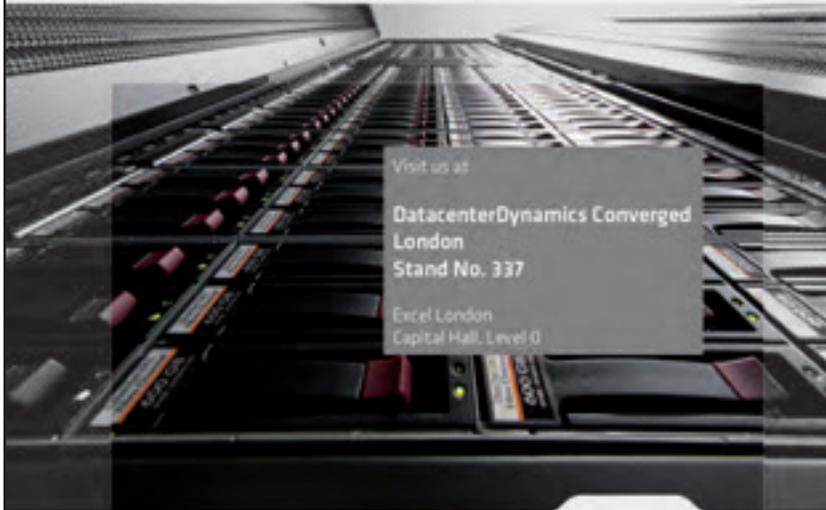
To provide seamless continuity from landline to 4G connectivity, SMEs and enterprises with distributed locations like shops can turn to a new range of 4G

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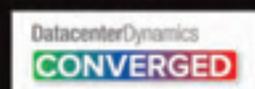
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wireless gateway products. When the landline goes down, the system automatically switches over to the 4G connection.

However, when landlines go down, the systems in a remote location can require resetting. 4G failover gateways can perform a vital role here for either handling an emergency or an everyday situation when remote support is necessary. When the 4G network continuity equipment offers an out-of-band management (OOBM) capability, a range of support tasks are possible.

While routers are typically very reliable, they can be a single point of failure, and may require a firmware update or sometimes just a reboot. A 4G wireless gateway with OOBM and Reverse Telnet



Used in conjunction with an enterprise router, Sierra Wireless' AirLink ES440 gateway provides remote out-of-band management while leveraging the router's failover features.

can allow remote network administrators to log in to the enterprise router console port to perform configuration updates or reset commands.

Once the initial problems on the enterprise router have been resolved via OOBM, network administrators can perform in-band management of other network connected devices. Of course,

there are wireless OOBM add-on products available today, but having an integrated capability in a single form factor offers monthly telecom cost savings and a simplified installation and maintenance path, avoiding the complexities of getting standalone units 'talking' to the NOC.

This approach allows the use of 4G for simplifying network management across remote, distributed locations, while delivering lower cost of ownership. By saving an on-site visit from a technician, OOBM can vastly reduce downtime and

associated repair costs, especially when those locations are remote or numerous.

Gateway to uptime

There are some challenges with network managers adopting 4G as the failover or even the primary broadband connectivity solution for retail or hospitality chains or small branch offices. Those links need to be easy to monitor and control when issues arise. Clearly it is going to be important to monitor airtime usage and set and receive failover event and airtime threshold alerts.

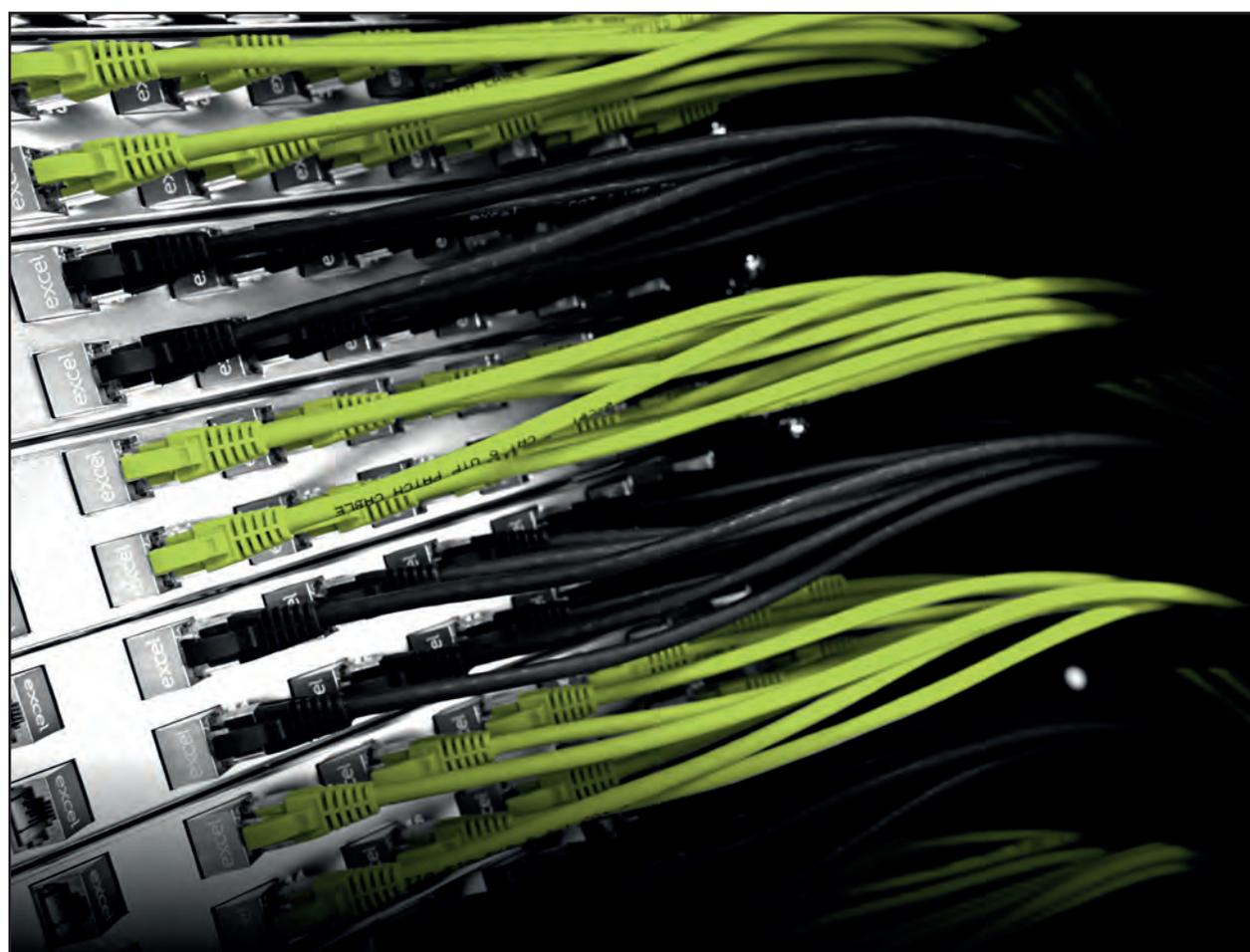
Choosing a gateway device that includes comprehensive connectivity management and is bundled with wireless connectivity via a business specialised mobile virtual network operator, means units can be setup in stores or branches in minutes.

This approach can minimise the potential for bill shock by ensuring the network manager chooses the appropriate failover or primary rate plans and providing alerts when airtime thresholds are reached. Typically, a failover rate starts from €25 per month but it is important that network managers make sure the plan includes LTE network features such as secure private network and fixed IP addresses to make it easier to deploy and manage 4G gateways in the field.

While 4G could potentially be more widely leveraged for failover solutions, there are other primary connection applications that are attractive. For businesses that need faster setup for broadband connectivity than the weeks offered by some carriers, 4G connectivity managed via a gateway device could be an ideal solution, especially in locations difficult to service with wire lines.

A good example here could be pop-up enterprises that need to setup quickly and trade for a short period of time, perhaps over a festive or holiday season.

In a world where connectivity is growing at exponential rates, the expectation is that internet access should be readily available at all times. Most individuals can afford to be a little put out when they lose their internet access. For distributed enterprises, the financial impact of losing connectivity is painful. Implementing a failover system that is specifically tailored to mitigate financial risk should be a priority. ■



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Data centres

The latest storage devices to keep those essential bits and bytes safe and secure.

Asustor has unveiled four enterprise class rackmount NAS models as part of its *AS70R* range. Available with nine- or 12-bays, the *AS7009RD* and *AS7012RD* are powered by Intel's *Core i3* 3.5GHz dual-core processors, while the *AS7009RDX* and *AS7012RDX* feature Intel's *Xeon E3* 3.4GHz quad-core processors. All four are compatible with the latest high capacity 6TB HDDs, enabling users to create storage spaces of up to 54TB and 72TB respectively.

In addition to their built-in 4GB UDIMM DDR3 RAM (expandable to a maximum of 32GB; 8GB x 4), all devices also feature four SuperSpeed USB 3.0 ports and two eSATA ports for added expansion possibilities. They come with four GbE ports along with two expansion slots for 10GbE network or SAS cards.

A variety of output ports including HDMI and VGA are also included, allowing IT administrators to

conveniently manage the system. All the devices offer two-way transfer support for Rsync, FTP, cloud (Amazon S3) and external backups, allowing for greater deployment flexibility.

Each unit features the vendor's latest *ADM 2.3 (Asustor Data Master)* OS. It's claimed that this not only provides reliable storage functionality, but also offers "seamless" cross-platform file sharing, making it suitable for enterprises with a "substantial" number of users.

ADM 2.3 offers several new features such as proxy server connections, TFTP support, *Windows ACL* support, and *SMB 2.0* support which is said to increase *Windows* networking performance by 30 to 50 per cent.



FUJITSU Storage reckons its new *ETERNUS CS200c* delivers a complete backup and archiving solution in one box.

The appliance integrates Fujitsu's *PRIMERGY* servers and *ETERNUS DX* storage system with CommVault's *Simpna*

backup software. The latter features built-in deduplication and can be extended with enterprise functions such as snapshot, application support and tape management.

There are two *ETERNUS CS200c* models available: *Entry* offers a 2-24TB

capacity, while *Scale* has 6-96TB. Both offer capacity scalability and are equipped with HDDs or SSDs.

Each appliance can be used as a standardised platform for the backup and archiving of data from physical and VM environments. Fujitsu says their administration is easy thanks to comprehensive automation which ensures highly efficient and reliable data backup.

There's also a central management console with GUI and remote access to track, index, schedule and perform data transfers. The vendor adds that unified



management eliminates multiple management points, reduces risks, cuts costs and frees up administration resources.

The *ETERNUS CS200c* comes fully licensed to ensure that capacity can be expanded quickly and cost-effectively during the lifespan of the appliance.

LaCie, the premium brand from Seagate Technology, has announced the latest evolution of its *d2* desktop storage line. The devices now feature dual Thunderbolt 2 interfaces as well as a new all-aluminium 'unibody' enclosure.

According to the firm, the *d2*'s Seagate 6TB 7200 RPM professional hard disk delivers speeds of up to 220MBps. It claims this makes it possible to significantly reduce backup and transfer times, as well as store and browse massive files with zero lag. Users can daisy-chain up to six devices to a single Thunderbolt port on a computer.

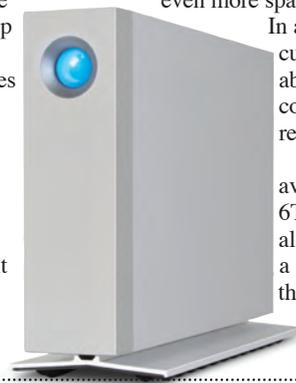
In what's billed as an industry first, LaCie has designed the *d2* Thunderbolt 2 to be upgradeable to the fastest SSD on the market. It claims this boosts speeds up

to 1,150MBps and adds 128GB of PCIe SSD storage to a computer.

The device is said to provide "uncommon rigidity" for long-term durability, thanks to its seamless casing which is forged from a single sheet of aluminium. The enclosure also draws heat away from the hard disk, allowing fan-free cooling. The integrated base extends the surface area, providing even more space for heat dissipation.

In addition, LaCie says a cushioning base and vibration-absorbing hard disk mounts combine to dramatically reduce vibration.

The new *d2* models are available in 3TB, 4TB and 6TB capacities. LaCie has also recently made available a 128GB SSD upgrade for the range, along with a USB 3.0-only version in 3TB, 4TB and 5TB capacities.



The *Turbo NAS TS/SS-x53 Pro* series is a new line-up of tower-based devices from **QNAP Systems**. The *TS-x53* range is available in 2-, 4-, 6- and 8-bay models, while the *SS-x53* line-up includes 4- and 8-bay versions with 2.5-inch drives.

All are powered by an Intel quad-core *Celeron* 2.0GHz processor and feature 8GB/4GB/2GB DDR3L RAM (expandable to 8GB). There are two or four LAN ports that provide up to 400MBps read and write speeds in port trunking mode, and QNAP says 70+MBps read and write speeds can be achieved with AES-256bit encryption performance.

Coupled with the vendor's *QvPC* technology, it's claimed the units can serve as cost-effective PC substitutes that enable direct access to stored data, real-time surveillance monitoring with local display, XBMC digital entertainment, and more.

QvPC is designed to consolidate a number of high-end technologies including VM integration, multimedia transcoding, HDMI output, cloud integration, and NAS connection technologies. According to

QNAP, it allows users to operate the *TS/SS-x53 Pro* series as a PC when they plug in a keyboard, mouse and monitor.

The firm says functionality can be further extended by installing the *Virtualization Station* from the QTS App Centre. This enables the operation of multiple *Windows*, *Linux* and *UNIX*-based VMs, and offers numerous functions including snapshot, VM import/export, dedicated LAN ports, user permissions, and more.

QNAP adds that users can conveniently operate VMs as remote desktops via web browsers for instant management or troubleshooting.



Quantum's StorNext Pro Workgroup has been designed as an easy to deploy, high performance and high capacity content workflow solution for post-production and broadcast professionals.

The integrated system supports ingest, production, review and delivery along with different options for petabyte-scale content storage and access at any stage of the workflow.

Quantum says *StorNext Pro Workgroup* extends online production capabilities by shifting important yet secondary production operations to its *Lattus* object storage-based system (pictured). As a result, it is claimed to provide users with "full access and unlimited

storage capacity in a seamless and fully integrated manner", all managed by Quantum's *StorNext 5* platform.

The new solution includes a *StorNext M662XL* metadata appliance and *StorNext QX-1200* high performance storage arrays.

Utilising *StorNext 5* and (in the case of archive add-on options) the included *StorNext Storage Manager* software, Quantum reckons its solution enables teams of creative professionals to work directly on content with the tools of their choice, and have content automatically migrated to the optimal storage based on workflow stage.



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Thousands of Big Data experts needed by 2020

Demand for Big Data professionals in the UK has created a “salary bubble”, enabling them to command more than double the average wage, according to a new report.

The Big Data Analytics: Demand for Labour and Skills, 2013-2020 study forecasts that a total of 346,000 Big Data positions will have been created in the UK between 2013-2020. It says jobs required to support Big Data projects have increased more than ten-fold in the past five years, and with demand significantly outstripping supply the average salary for specialists in this area has reached £55,000 – 24 per cent more than the average IT position.

But recruitment specialists servicing the sector rank senior data analytics roles as harder to fill than those in business intelligence, purchasing, engineering, sales, finance, management, IT/communications, marketing/PR, and health/medical.

The study was published by the IT sector skills council Tech Partnership, and business analytics specialist SAS. Mark Wilkinson, SAS’ UK and Ireland MD, says: “Big Data is on the cusp of going mainstream as the Internet of Things takes hold, and government, businesses and individuals look to use data to make better and faster decisions.”

“We believe Big Data is the ‘new oil’ that will power the information economy – and Big Data analytics will refine this new oil so valuable insights can be extracted that inform business decision-making.”

SAS says it has already invested more than £100m to support UK universities and develop the next generation of Big Data professionals. The government is also supporting the drive for more specialists with the implementation of national standards and the creation of new projects, especially around open data.

Last month, the EC and the Big Data Value Association (BDVA) signed a partnership deal to invest €2.5bn into several Big Data initiatives from 2015 to 2020.

According to reports, the EC will commit €500m to help create up to 100,000 new data-related jobs in Europe by 2020. The BDVA will add at least another €2bn over the same period. The association is a public private partnership whose members include various research bodies and firms such as ATOS, IBM, SAP, amongst others.



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Gateway Programme to “boost” graduate prospects

QA has launched its exclusive *Gateway Programme* for recent STEM graduates. Through the programme, the training specialist aims to fast track the careers of young people into the increasingly competitive IT market.

According to QA, while new graduates have the drive and academic qualifications, they do not necessarily have the practical skills to maximise their potential within the first two years of employment. The new programme aims to address the problem. It will provide graduates with a period of what QA claims is “world class” practical

training followed by an assignment with one of the employers in its 6,000-strong client base. The firm says training and assignments will provide a balance of both informal and formal learning to support the development needs of graduates.

The UK Council of Professors and Heads of Computing predicts that demand for IT professionals will increase by up to 15 per cent in the next eight years. As a result, QA’s *Gateway Programme* will initially focus on the well-publicised UK IT skills gap.

“During the recession, IT budgets were tight, projects held back, and staff numbers cut,” says Andy Thompson, skills management consultant at QA. “As the financial climate improves, the need for skilled IT staff is accelerating. The technology deficit that many companies are experiencing needs to be fixed quickly with new staff hitting the ground running.”

NEW COURSES

Level 3 Award in Principles of Telecommunications – PTT

PTT says its *Level 3 Award in Principles of Telecommunications* helps address the UK’s current skills shortage in telecoms by providing new entrants with a solid foundation for technical competence.

The programme is flexible, and trainees do not need to travel to a training centre. It consists of a combination of interactive courses, tutor support and assessment all delivered online. The course provides a core element and a choice of one of three specialisations: mobile communications, telephony and data communications.

Successful participants will be awarded a certificate of achievement by NCFE, one of the UK’s major awarding organisations. www.ptt.co.uk

Qualified Security Team Member – Tigerscheme/PGI Cyber Academy Cyber training specialist PGI Cyber Academy is now delivering the training and assessment for Tigerscheme’s *Qualified Security Team Member (QSTM)* at its training facility in Bristol.

The course allows individuals to become recognised and certified information security professionals within the public and private sector. It also offers the opportunity for IT practitioners to add information security to their skills set.

The *QSTM* assessment has been reviewed by CESG (the National Technical Authority in the UK) and has been accepted as meeting the technical requirements for a CHECK Team Member assault course.

Tigerscheme’s *QSTM* certification is backed by the University of South Wales. www.pgicyberacademy.com



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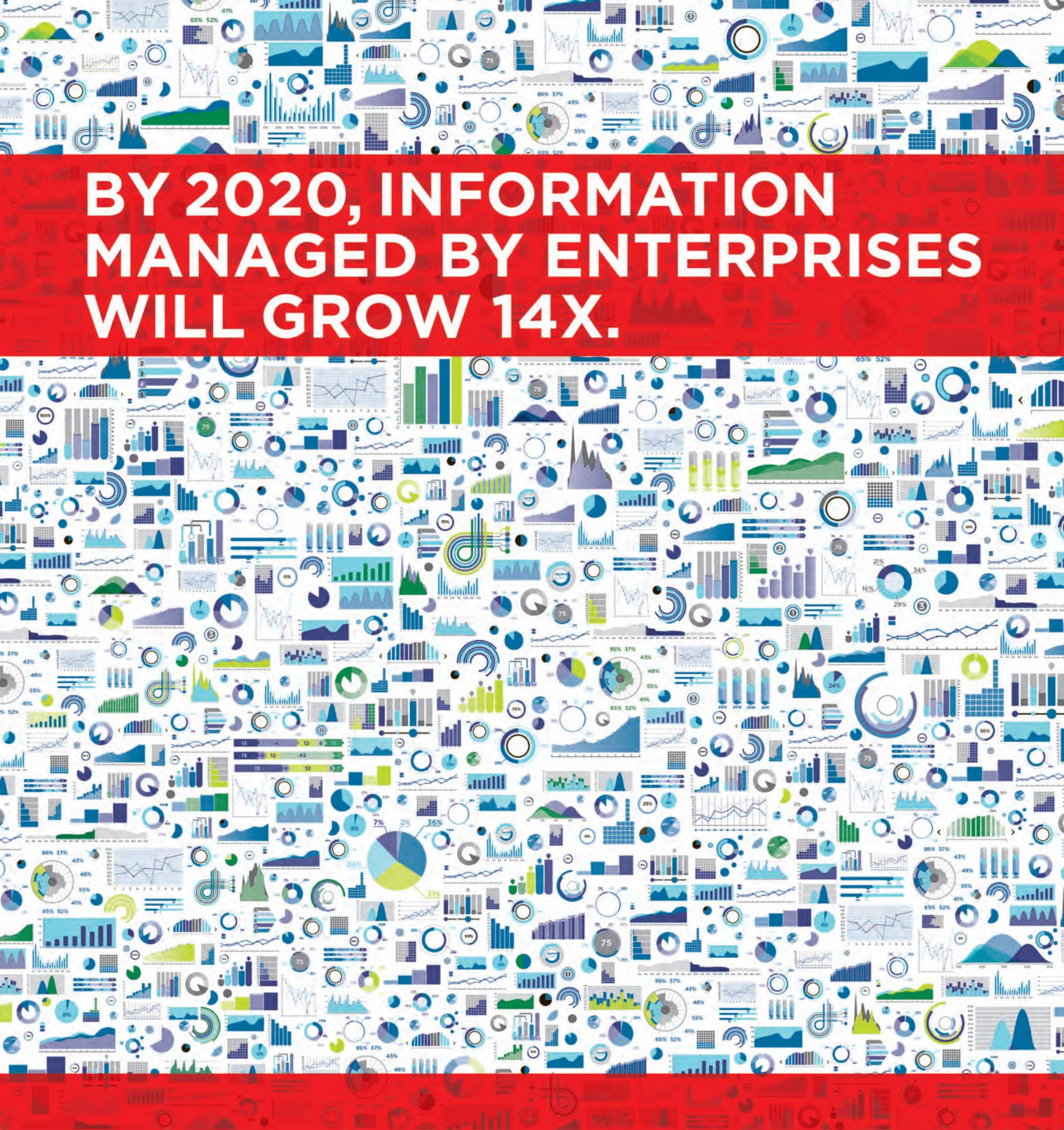






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