

networking

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HP finalises separation into two independent companies

by Rahiel Nasir

HP has now completed its separation into two independent companies: Hewlett Packard Enterprise and HP Inc.

Following the proposed split that was announced earlier this year, HP's board of directors approved the separation in October and it was finalised last month.

Hewlett Packard Enterprise (HPE) says it will focus on developing the technology solutions businesses need to optimise their traditional IT while helping them build a secure, cloud-enabled, mobile-ready future. The company will include HP's portfolio across its Enterprise Group, Enterprise Services, Software and Financial Services divisions.

HP's printing and personal systems businesses will now be owned and operated by HP Inc.

"This separation will enable us to accelerate the turnaround we began four years ago," said Meg Whitman, chairman, president and CEO, HPE. "As two independent, industry-leading companies, Hewlett Packard Enterprise and HP Inc. can drive more focused business strategies, innovation roadmaps, and go-to-market models. The separation will also present better choices for investors by creating two distinct and attractive investment profiles."

According to reports, the split will lead to the loss of 25,000 to 30,000 jobs from HP's total workforce of around 300,000 staff. At a meeting for Wall Street analysts in September, the BBC quoted Whitman as saying: "We've done a significant amount of work over the past few years to

take costs out and simplify processes, and these final actions will eliminate the need for any future corporate restructuring."

However, the broadcaster cited analysts who believe that there may be further redundancies given the troubles the company has been experiencing over the last decade as customers have shifted away from desktop PCs.

It added that HP's balance sheets were also impacted by "a series of expensive and much-criticised" acquisitions such as its \$11bn buyout of British firm Autonomy in 2011, as well as the \$25bn purchase of Compaq in 2002.

HP's separation was carried out through a pro rata distribution to stockholders of 100 per cent of the outstanding shares of Hewlett Packard Enterprise. The split has given HP stockholders ownership interests in both HP Inc. and HPE.

Trading for Hewlett Packard Enterprise shares on the New York Stock Exchange will now be under the ticker symbol 'HPE'. HP – to be renamed HP Inc. – will continue to trade on the NYSE as 'HPQ'.



HPE president and CEO Meg Whitman (centre) on the podium at the New York Stock Exchange after ringing the opening bell on 2 November.

PHOTO: ERIC DRAPER

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For data centre control equipment

SMEs must do more to tackle threats to their cyber security

Small businesses must be more proactive to protect themselves against cyber attacks and make the issue a core part of their business strategy for 2016, according to the Cyber Streetwise Forum.

The Cyber Streetwise campaign is a cross-government initiative run by the Home Office. Funded by the National Cyber Security Programme overseen by the Cabinet Office, it was launched in 2014 with the objective of providing the public and businesses with the knowledge to take control of their cyber security.

The Cyber Streetwise Forum includes members from the Federation of Small Businesses, Hewlett Packard Enterprise, KPMG, Symantec, amongst others. It highlights the need to increase the barrier to entry for cyber criminals on both personal and business devices.

The forum's members believe that uncertainty around what steps to take in order to boost online security means that many small business owners ignore the issue until they are forced into action.

"We are living in an increasingly digital economy but many people just don't think about cyber security until it affects them personally," says Matthew Gould, director of cyber security and information assurance at the Cabinet Office. "As well as advice specifically targeted to SMEs on Cyber Streetwise, a raft of practical guidance is also available on GOV.UK for businesses of all sizes. If businesses aren't already signed up to the Cyber Essentials scheme, they should do so."

The Government also offers a free cyber security guide and a free online training course for small businesses.

European businesses paying “too much” for their telecom services

Enterprise users in Europe are still paying too much for services such as fixed and mobile telephony, text messaging and mobile data, says A&B Groep.

According to the telecoms consultancy firm, while mobile roaming charges will no longer apply in 2017 and is a step in the right direction, it is not enough. “In our opinion, companies won’t be saving much with the abolition of roaming charges. Providers will simply find another way to make money,” states the firm.

A&B Groep reckons Europe’s “patchwork” telecoms climate represents the real problem. It believes the complexity of the telecoms markets, both

globally as well as across the continent, makes it difficult for companies to negotiate competitive contracts with service providers.

For example, it says an organisation that operates internationally will have to sign separate contracts with a national provider and an international one, even if it operates under the same name.

A&B Groep CEO Ron Rijkenberg says compared to the US, the European telecoms market is still a “work in progress” with lots of different providers. “Those that operate globally also operate on a national level, and each country has its own set of rules and regulations. This

makes it virtually impossible to negotiate global deals. Finding the best telecom contract for your entire company can be extremely difficult.”

A&B Groep says its findings are based on the extensive telecom optimisation projects it has undertaken for clients in the European, American, Canadian, Mexican, Asian and African markets.

As part of this, the company also analyses monthly invoices sent by telecom providers and found that 11 per cent of these are incorrect. “The growing complexity of data plans makes it incredibly difficult for providers to process error-free invoices in their systems,” claims Rijkenberg. ■



A&B Groep claims that the complexity of the European and global markets makes it difficult for business users to negotiate competitive contracts with telecom providers.

Quantum launches at NASA

NASA will use Quantum’s scale-out storage platform as the foundation for the new content management and storage system being deployed within a new data centre at the Kennedy Space Centre (KSC).

Systems integrator StorExcel is deploying a solution combining Quantum’s *StorNext*, IPV’s *Curator* digital asset management system, and the *Vantage* media processing platform from Telestream. The system will enable the KSC to centralise, manage and preserve all its digital content, including video from high-speed cameras used during launches, footage from surveillance cameras, digital prints and still imagery.

Quantum says its platform will provide NASA with multi-tier storage, including a metadata appliance, primary disk storage and an archive-enabled tape library. It adds that the system can scale to more than 10PB of storage capacity.

Used in combination with *Curator* and *Vantage*, the firm says the platform will enable the agency to manage more than 15 different digital formats across the entire content lifecycle, including import, transcode, process, distribute, export and retention. Users will also be able to search, preview and access any of the content via a secure web-based interface. ■

Dell faces security questions

The security of Dell’s devices has been questioned following revelations that personal data on some of its devices could be compromised. The company has suffered two separate but similar instances related to root certificates.

The first issue came to light after consumers discovered a self-signed root certificate on their PCs. *eDellRoot* certificate was installed by the *Dell Foundation Services* application which is pre-loaded on several of the company’s devices to help provide remote customer service and support.

A fix was issued but a week later another similar flaw was revealed. This affected users who downloaded the *Dell System Detect (DSD)* application between 20 October and 24 November 2015.

In a statement issued on 23 November, Dell said: “*DSD* and its *DSDTestProvider* root certificate had similar characteristics to *eDellRoot* certificate that was installed on Dell PCs... The support certificate in question was designed to make it faster and easier for our customers to get support. The certificate unintentionally introduced a security vulnerability.”

The firm said *DSD* was immediately

removed from its support site and that a replacement application without the certificate is now available.

According to some experts, the repeated issues have raised concerns about Dell’s attitude towards security. This is likely to be particularly embarrassing for the firm as it has recently launched several new enterprise-class security solutions.

Brian Spector, CEO of London-based IT security specialist Miracl (formerly Certivox), says: “This latest incident is just one of many whereby the commercial certificate authority’s position as a single point of trust is causing serious problems. In the short term, Dell should immediately stop delivering devices with this root certificate.”

Spector believes the commercial digital certificate industry in general is “broken”, and the best thing for the industry to do is replace it and start over.

“In the long term, the tech industry must realise that PKI isn’t fit for purpose since the entity holding the root key can have such an adverse impact on the trust relationship with end users.

“A new distributed trust paradigm needs to be established that replaces the single points of failure model.” ■

SSE Enterprise Telecoms expands nationwide Ethernet connectivity

SSE Enterprise Telecoms claims it has broadened the UK’s Ethernet coverage with the launch of the second phase of *Project Edge*, its network expansion programme.

Edge 2 will add a further 33 BT exchanges to the firm’s existing 13,700km nationwide network which features 232 POPs. Furthermore, SSE says the deployment adds another 50,000 prime city centre business postcodes to the 200,000 introduced during the first stage of its project.

The company originally began *Project Edge* in November 2013 and says phase one successfully added 54 POPs, mostly in London, to its network. By interconnecting these with other leading fibre network service providers, SSE says it was able to initiate full UK-wide coverage.

It adds that *Edge 2* will enable its customers to directly purchase additional Ethernet services. According to EY Analysis, Gartner and IDC, during the first quarter of this year, service provider revenues from the global Ethernet market



MD Colin Sempill claims SSE Enterprise Telecoms has seen a 250 per cent increase in orders for Ethernet services during the last 12 months.

grew by just 1.4 per cent year-over-year. Despite this, SSE claims it experienced a 250 per cent increase in orders of its Ethernet services in the last 12 months, largely due to its investment in *Project Edge*.

“Our most recent network expansion initiatives have focused on adding 31 commercial data centres in London and Manchester [also see *News*, Apr issue] that can deliver 1Gb and 10Gb waves in a week,” says Colin Sempill, MD, SSE Enterprise Telecoms. “*Edge 2* will see us invest once again in national Ethernet services to meet the clear demand for high-quality Ethernet connectivity across the nation revealed by *Edge 1*.” ■

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Myriota CEO Dr. Alex Grant (right) says the first generation of devices will be about the size of a credit card (left).



Tiny tags connect M2M sensors in global WAN

A new company is promising to revolutionise machine-to-machine (M2M) communications across the world using technologies developed by the University of South Australia (UniSA).

Myriota was founded earlier this year as a spin-off from the UniSA's Institute for Telecommunications Research. It has partnered with Canadian company exactEarth which is providing significant funding and a fleet of low Earth orbit (LEO) satellites that will be used to provide two-way data connectivity for remote sensors and devices.

It's claimed this will bring to market a new category of globally available high-volume, real-time WAN communications services at previously unobtainable price points.

Myriota says its complete M2M connectivity solution was designed specifically to support small data applications with sporadic communications requirements.

The company has developed tiny tags which use industry-standard interfaces to connect with remote sensors. The tags

send data directly via a network of LEO micro-satellites, and Myriota reckons its advanced signal processing technologies allow them to use much less power, and transmit more data more reliably in very small radio bandwidths.

"Access to even small amounts of data has the potential to greatly improve efficiency of operations and reduce overall costs," says Myriota CEO Dr. Alex Grant. "Our understanding and management of the environment is also critically dependent on obtaining data from remote areas. Providing global reach for the Internet of Things, Myriota will provide a cost-effective, global service addressing these problems."

During the first half of next year, the company plans to further develop prototype devices that it can take to market. "The first generation will be something like the size of a credit card. The second generation in subsequent years will be a further miniaturisation to really open up the set of applications for collecting the data," says Grant. ■

CityFibre to make Glasgow Scotland's third "Gigabit City"

CityFibre has named the third Scottish city to benefit from its ambitious 'Gigabit City' programme. Following on from rollouts in Edinburgh (which has just gone live) and Aberdeen (where the deployment is ongoing), the company will now work with local ISP HighNet to build an ultra-fast pure fibre network in Glasgow.

The first phase of the installation is due to start in early 2016 and will comprise a dense network build in the city centre.

CityFibre claims the new infrastructure will support internet connectivity up to 100 times faster than the UK average.

According to the firm, up to 7,000 city centre businesses will be within reach of the fibre network during the year, gaining access to a new generation of ultra-fast services via HighNet's channel partner network. It says that up to 15,000 businesses across Glasgow will stand to benefit when the city-wide rollout is completed.



THE WORLD ACCORDING TO...

Julian Cook, director of UK business, M-Files

'Shadow IT': understanding unauthorised application usage

Understanding the scale and magnitude of the use of unauthorised applications across the enterprise sector is the first step in dealing with 'shadow IT'.

A recent Frost & Sullivan report revealed 49 per cent of employees are more comfortable with using unapproved applications within the enterprise as it allows them to get their jobs done quicker and easier. A further 38 per cent of employees identified "slow or cumbersome" IT approval processes for the needed service, with almost a quarter stating that the unauthorised application met needs better than IT's alternative.

Last year, M-Files conducted a similar study and found that almost half of those surveyed stored company data on their personal file sharing and sync apps. Additionally, 56 per cent said their organisation did not have a policy to prohibit file sharing.

There needs to be a fundamental rethink about how key stakeholders approach IT. Unfortunately, many applications currently in use for managing and collaborating information can often be clunky and unnecessarily complicated for the user. This inherently drives employees into choosing simpler, more versatile alternatives, which are not sanctioned by the business.

For the IT department, preventing use of these unauthorised applications presents numerous challenges, largely due to their scale and acceptance amongst the working world. To do this effectively, it's important that IT understands and learns about employee preferences, notably the speed and requirements needed for accessing, sharing and collaborating on data with internal and external colleagues.

Next, you must clearly define what you want your policies to be. These must support effective collaboration with individuals in and outside of the business, as well as adhering to strict data protection and security policies. It is also vital that employees are educated and understand the reasons for the policy being put into place. This can be supported through documentation including guidelines, best practice procedures and suggested security frameworks.

You will then be able to determine the solutions most suitable to your workforce. This is likely to consist of an equal mix of ease of use and deployment, and a full set of information management features and capabilities. For this to be effective, it must have staff buy-in and be driven by management throughout the business.

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"This announcement marks our third Gigabit City project in Scotland," says CityFibre CEO Greg Mesch. "Upon its completion, CityFibre will have an established network presence in Scotland's four largest cities, making us the largest wholesale fibre infrastructure provider in the country after BT Openreach."

As with its other Gigabit City projects – which also include Coventry,

Peterborough and York – CityFibre says Glasgow's network will be deployed in-line with its 'Well Planned City' model. This accommodates current and future capacity requirements from the business community, public sector, mobile operators and data centre providers. The firm adds that in the long run, the network could form a backbone for a future deployment of gigabit-capable FTTH. ■

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Cohesive Networks on new G-Cloud 7

Four of Cohesive Networks' *VNS3* services have been accepted into the government's new *G-Cloud 7* digital marketplace which launched on 23 November. They include: *Cloud Network Manager*, *Application Security Controller*, *Secure Network Appliance* and *VNS3:vpn*. The services are software-only virtual appliances that allow users to create and control their own network on top of IaaS infrastructure. Cohesive says public sector organisations and their system integrators can now access *VNS3* to provide security and connectivity for all their cloud-based applications. Cohesive adds that more than 2,000 customers worldwide are already using its *VNS3* appliances. ■

Skyscape cuts cost of cloud services

As Government departments face increased pressure to deliver public services for less, Skyscape is reducing the prices of its pay-by-the-hour cloud services. Its Compute-as-a-Service offerings will fall by 50 per cent while Hadoop in the Cloud will see a 90 per cent price reduction via *G-Cloud 7* compared to the previous iteration. The firm has also committed to freezing Microsoft licensing charges, reducing entry pricing for N3 connectivity options by up to 50 per cent, and removing setup fees for its *Cross Domain Security Zone* service. CEO Simon Hansford says Skyscape's "rapid growth" has enabled it to pass on economies of scale to customers. ■

Imerja to support IT for aerospace firm

Imerja has been selected to provide out-of-hours technical service desk support for Cross Manufacturing's IT infrastructure. Following increased demand, the UK-based aerospace company wanted to move to a 24x7 production schedule while reducing the burden on its internal IT team. It will use Imerja's bespoke managed service desk offering for out-of-hours support throughout the week, plus 24-hour cover at weekends and public holidays. The contract includes monitoring for and triaging faults, as well as escalating issues to the appropriate resolver groups and providing a first-line fix where possible. ■

European Court ruling invalidates US Safe Harbor data agreement

The US Safe Harbor agreement has been ruled invalid by the European Court of Justice (ECJ). The agreement gave companies the ability to move personal data on European citizens to the US without breaching the European Union's strict retention laws.

According to the 1995 EU Data Protection Directive, the transfer of personal data to a third country may, in principle, take place only if that third country ensures an adequate level of protection of the data. The directive also requires each EU member state to designate national supervisory authorities for monitoring the application of the directive.

The decision to remove the agreement means EU countries now have individual control over how companies operate within their borders, and how data belonging to their citizens is collected and managed.

The ECJ's ruling was issued in early October. It followed the case of Austrian *Facebook* user Maximilian Schrems who was concerned about his data being transferred from Facebook's Irish subsidiary to servers in the US for processing. In the light of Edward Snowden's revelations in 2013, Schrems lodged a complaint with Ireland's Data Protection Commissioner which said that the law and practice of the US do not offer sufficient protection against surveillance by the public authorities of the data transferred to that country.

The Irish commissioner rejected the complaint, citing the EU's acceptance of the US' Safe Harbour agreement. This was then contested by the High Court of Ireland. The ECJ has now decided that even if a third country ensures an adequate level of protection, this "cannot eliminate

or even reduce" the powers available to the national supervisory authorities under the EU's Charter of Fundamental Rights and the data protection directive.

"The Court finds that the Safe Harbour decision denies the national supervisory authorities their powers where a person calls into question whether the decision is compatible with the protection of the privacy and of the fundamental rights and freedoms of individuals," said the ECJ. "The Court holds that the Commission did not have competence to restrict the national supervisory authorities' powers in that way."

As a result, EU member states now have the power to stop any business from transferring their citizen's data at any time, and their national supervisory authorities can assess each single transfer of personal data to the United States. ■

Supercapacitors promise to cut UPS running costs

Eaton says it has become the first UPS manufacturer to deliver a complete backup power solution that uses supercapacitors made in-house instead of batteries.

When combined with its UPS systems, the firm claims the new supercapacitors provide a "convenient and affordable" alternative in applications where only short-term power protection is required or battery-backed solutions cannot be used.

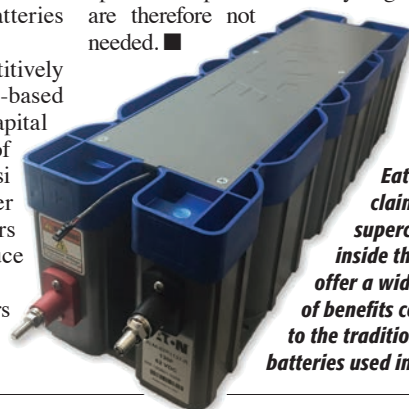
According to Eaton, the supercapacitors offer a wide range of benefits compared to traditional batteries. It says they're much lighter, offer working lives of up to 20 years at 25°C, require no maintenance, and have "minimal" cooling requirements as they produce almost no heat.

The firm adds that the supercapacitors are also ideal for applications where harsh operating conditions and high ambient temperatures mean that the use of batteries is not feasible.

"The solution is very competitively priced when compared to flywheel-based solutions, which means lower capital expenditure for a given size of system," says product manager Jussi Vihersalo. "The long lives and lower operating costs of the supercapacitors mean that they substantially reduce the total cost of ownership."

Eaton reckons the supercapacitors are highly scalable and can be easily expanded to accommodate future

growth. It also points out that unlike batteries, they generate no hydrogen during their operation so provisions for hydrogen removal are therefore not needed. ■



Eaton claims the supercapacitors inside this module offer a wide range of benefits compared to the traditional batteries used in UPSs.

Newcastle United signs Onyx for its Onetouch skills

Newcastle United Football Club (NUFC) continues to enhance its IT infrastructure and has now announced a new project with Teeside-based technology specialist, Onyx Group.

The company says it will provide the club with a "comprehensive" and fully managed solution. It says this includes a resilient network containing no single point of failure so that NUFC will be able to guarantee maximum availability and uninterrupted connectivity for staff as well as media professionals on match days.

According to Onyx, Newcastle United has reached "new levels" of sales and customer interaction via its website, creating the need for the highest levels of IT support to maximise availability. As part of the solution, NUFC has access to Onyx Group's *Onetouch* support service which monitors and manages its network and desktop estate around the clock.

"As the club continues to grow on and off the field, it is vital that we have an IT strategy in place that enables us to maintain the excellent levels of service

that we expect," says Daniel Bailey, IT head at Newcastle United. "Onyx Group's resilient solutions and reputation for delivering tried-and-tested technologies provides us with confidence in our ability to adapt to future IT developments."

This is the second major IT infrastructure development that NUFC has announced in recent months. In a separate installation earlier this year, it worked with Mobotix on a network-based security system to help protect its home ground at St. James' Park (see *News*, Oct 2015). ■

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Ushering in a “new era” for storage array analytics

FalconStor Software and Cumulus Logic have teamed-up to usher in what's claimed to be a new era of intelligence for all-flash and hybrid storage array analytics.

FalconStor has acquired an exclusive source code distribution license from Cumulus, and will now provide an intelligent cloud-based predictive analytics monitoring system for its *FreeStor* storage system. This is described as a single, converged, hardware-agnostic data services software platform that works

horizontally across all heterogeneous storage hardware, including all-flash, hybrid and HDD arrays.

With the help of Cumulus, FalconStor says *FreeStor* is bringing core intelligence to the software-defined data centre. It says the platform now features *Intelligent Abstraction* and *Intelligent Predictive Analytics* that work in real-time for visualisation, analysis and action with capabilities similar to the historical analysis provided by software tools such as Splunk.

“This joint effort between *FreeStor* and Cumulus Logic will offer abilities not seen in other solutions,” claims FalconStor CEO Gary Quinn. “For instance, it can be used on any storage resource regardless of vendor or type, and on premise or in the cloud.”

The firm says it now offers unique functionality including tools based on ‘smart’ rules for performance monitoring, capacity planning and other insights to maximise storage resources. It adds that the cloud-based engine will also enable

secure multi-tenancy for service providers that manage their customers’ data and infrastructure, and support private cloud environments.

Cumulus founder and CEO Iqbal Ottamallika believes the more widespread adoption of flash, the coming “deluge” of 3D NAND flash, and the rapid rise in Big Data means there's a greater need for service providers and their customers to understand the health and capacity of their storage platforms with real-time capabilities. ■

Vision RT sees the future with Adapt outsourced private cloud

Vision RT, a provider of proprietary solutions for the image-guided radiotherapy market, has replaced its in-house IT infrastructure with an outsourced private cloud from Adapt.

As its business has grown, Vision RT identified the need to improve a range of key IT functions, including server reliability, storage, backup and security. Adapt says it was chosen as the solution provider because it has experience within the medical field, as well as the relevant compliance qualifications for handling sensitive data.

Vision RT will use *The Habitat*, Adapt's software-defined cloud ecosystem. It's claimed this will improve performance in areas such as collaboration for more than 90 users worldwide, while also delivering better protection for sensitive data.

Adapt says *The Habitat* is a first-to-market application-hosting ecosystem that dynamically aligns IT budgets and business requirements. It says this provides customers with agile and efficient infrastructure, makes enterprise-grade services commercially accessible, and offers choice and flexibility.

Through outsourcing its IT, Vision RT is now benefiting from improved resources and service management. Andrew Scott, the firm's IT manager, says: “Working with Adapt has provided us with the security and agility to continue our business growth and innovation without concern for our IT infrastructure.” ■

Vision RT's unique products use real-time, 3D surface imaging technology to enhance patient surveillance during radiation therapy for the treatment of cancer.



KEMP enhances application delivery management with new SaaS

Following on from the recent launch of its Load Balancing-as-a-Service plugin (see last month's news), KEMP Technologies has now previewed a new SaaS framework to help simplify and streamline application delivery management (ADM).

While the LBaaS plugin is aimed at ADM in private cloud environments, the new *KEMP360* framework is designed to improve operational efficiency and service availability across all clouds, data centres and virtualised estates.

It's claimed that *360* solves common technology challenges by giving IT staff visibility and control of application delivery, along with centralised management and monitoring across KEMP's complete portfolio of application delivery control (ADC) technologies. The firm says this is achieved through a single pane view of key metrics related to capacity utilisation, uptime and performance.

The *Central* component of the software aims to simplify day-to-day ADM with comprehensive ADC and service management, log collection and administration. At the same time, *Vision* reduces the impact of application delivery performance issues with

proactive monitoring, alerting and automated workflow triggering for remediation.

According to KEMP, *360* also helps application owners meet key business objectives such as opex reduction, SLA delivery and optimised QoE to end users.

“Our closed beta program for *KEMP360* helped us to learn a lot about our customers and identify interesting trends,” says Jason Dover, KEMP's director of product line management. “Overwhelmingly, we found our enterprise and service provider customers hyper-focused on improving responsiveness and agility within their IT organisations – a key enabler being cloud adoption for new and existing app deployments.” ■

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VIEW FROM THE TOP

Dirk Paessler, founder and CEO, Paessler AG

SDN – slowly drawing near?

SDN uptake by companies in the UK remains painfully slow for those who believe it ought to be the new standard way for businesses to operate their network infrastructure. According to Gartner, only 10,000 companies globally will have adopted SDN by the end of 2016, which, considering the impact it is vaunted to have, represents grindingly slow progress.

There is certainly an element of businesses standing at the water's edge, waiting to see who will jump first. There is a lot of choice of manufacturer, shape of infrastructure and scale of investment, and CIOs are understandably wary of justifying what would effectively mean the replacement of an entire IT system only to see it leap-frogged by something more cost-effective two years later. The bottom line is that we are a long way from seeing this being a cost-effective option for SMEs.

Added to this, the amount of system downtime, disruption and retraining required to make it work is causing many small and medium sized businesses to balk at taking

the plunge. This puts monitoring providers in a difficult spot. Despite their role in making SDN work on a wide scale when it finally arrives, for now there is little sense in them focusing on single-provider solutions while there is uncertainty over what the eventual standards will be.

Once SDN providers have those universal standards that allow the solutions to calculate control plane performance data, monitoring software providers will be able to integrate it into a single comprehensive overview of the entire network. This was the case with virtualisation software like Citrix and VMware – we had to wait for the technology to mature before we could get the standards that would enable these virtual environments to be integrated into our monitoring solutions.

So we certainly have time, maybe years, before SME administrators start implementing SDN. At that point, network monitoring solutions will be ready to play their role in ensuring its transition, with all standards and performance data evaluation fully worked out hopefully ahead of time.



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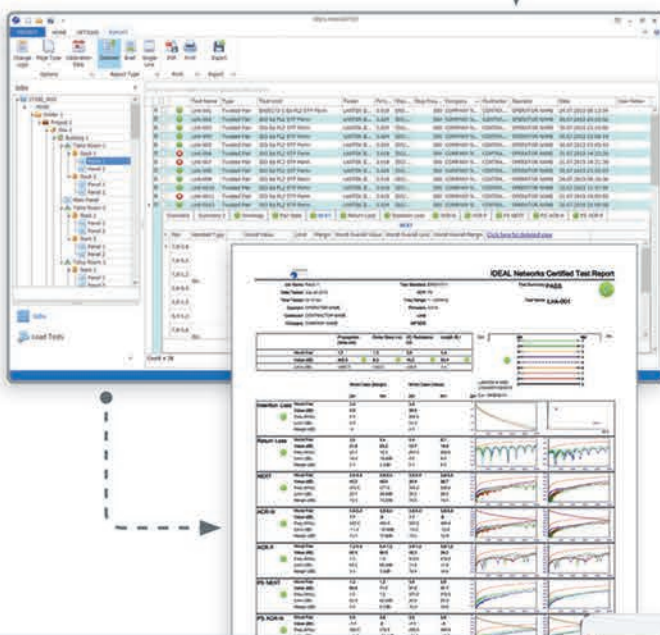
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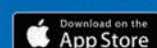


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Shop but don't drop

With the holiday season upon us, retailers will be hoping for bumper sales. Now is therefore not a good time for their networks to put their feet up...

Storage prices fall at Nisa Retail

In 1977, two grocery entrepreneurs set up the Northern Independents Supermarket Association as a way of protecting the interests of independent stores against the rise of supermarket chains. Now with an annual turnover of £15bn, Nisa Retail operates 2,500 stores and represents more than 1,200 members throughout the UK.

Technology is key to the organisation's infrastructure to ensure deliveries run smoothly and that member stores are kept stocked. The impact of losing data or downtime on servers is therefore extremely costly. While Nisa had a disaster recovery plan for its 31 internal servers, it realised this was slow and inefficient – in the event of failure, it would take days or even weeks to purchase and install new servers.

As a result, the association needed a backup solution that was not only responsive and reliable, but also fully compliant with UK regulatory requirements. It chose Quorum's *onQ* appliance which also had the added advantage of being the only PCI compliant solution on the market.

Nisa deployed two *onQ*s – one at its headquarters in Scunthorpe and the other at its recovery centre in Rotherham. For extra resilience, the association's data are also stored in a private cloud.

In Rotherham, Nisa has replicated its critical servers on site which means it can be up and running in minutes rather than days if there is a system failure. In

the event of a major disaster, it has the capacity to relocate staff to Rotherham to ensure business continuity.

Nisa's IT team did much of the installation themselves for the *onQ* appliances, with some additional support from Quorum's support team. The devices maintain up-to-date, ready-to-deploy VM clones of critical systems which run on each appliance, transparently taking over for failed servers within minutes.

For data that needs to be stored for longer, Nisa has deployed Quorum's *onQ Archive Vault* which provides a long-term archive backup of critical information.

The appliances have proved their worth since they were installed early last year, as Nisa infrastructure manager Darren Scarratt explains: "When we had a SAN failure, the Quorum solution kicked into play straight away. This not only meant that we were able to keep working as usual, it also saved us a lot of time in rebuilding the systems."

Scarratt adds that the *onQ*s reduce the pressure on Nisa's IT team. Backing up to VMs has also enabled the organisation to make cost reductions as it has reduced its storage and made savings on licences.

Crew now shipshape with new ERP system

Crew Clothing Co. has partnered with IT and telecoms service provider HSO in order to gain a better view of its customers and make stock management more efficient.

With a rapidly expanding business, the retailer required a credible technical solution to support its growth and daily operations. "We had outgrown our current systems and were struggling to deal with the quality of data and the functionality we needed to run a successful multi-channel retail business," says Justin Hampshire, finance director, Crew Clothing.



As a result, the company reviewed 20-30 potential suppliers over a period of six-months, and hired a dedicated project manager to ensure the evaluation was as comprehensive as possible. The final shortlist of three solutions included *Microsoft Dynamics AX for Retail*, SAP, and a purpose-built system.

To work for Crew, the successful ERP solution had to cover three key areas.

Firstly, the company's existing stock management system provided multiple views on its total stock levels based on the call centre, online or in-store systems. A single unified and accurate view was therefore needed.

Customer satisfaction is also of paramount importance to Crew. As web sales continued to grow so did the associated challenges, such as customer returns, exchanges and refunds, all of which varied between in-store and online. The ERP platform therefore needed to offer a single system capable of handling all customer queries, regardless of whether purchases were made online or in-store.

Thirdly, better and faster management of data was required, as retail is a fast-paced industry and having the right product in the right location was crucial to Crew's success.

The retailer bought *Microsoft Dynamics AX for Retail* from HSO. Hampshire says the company can now tailor unique offers to customers and ensure it is providing relevant and appropriate information to them. "This builds customer loyalty

and allows us to exceed our customers' expectations," he adds.

Centralised stock management has also helped Crew take a significant step forward by providing greater business insight. The management team have a faster and more accurate understanding of what is selling where, and the drivers behind the purchase.

In addition, HSO says *Dynamics AX* is propelling business agility throughout the firm to help drive smarter, faster decisions.

Net-A-Porter gains single network view with Riverbed

The Net-A-Porter Group (NAPG) includes various luxury fashion outlets as well as digital and media publications aimed at well-heeled and well-dressed consumers.

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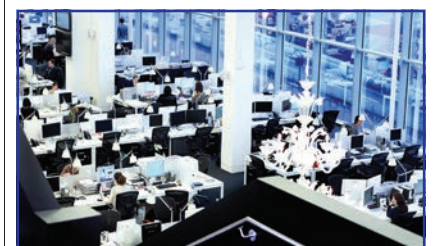
The group is said to be built on a foundation of technology innovation and operates a hybrid IT infrastructure. This includes product and order management, and warehouse logistics all deployed in multiple data centres and accessed by staff from various locations. NAPG has sought to ensure that its platform is integrated into existing infrastructure so that every member of the technology team has access to the data they need, whenever they need them.

As part of its APM strategy and to optimise the performance of its mission-critical SaaS applications and websites, the company has now deployed Riverbed's *SteelCentral* solutions.

Simon Fotakis, the group's global network operations manager, says it was crucial to deploy a platform that could provide a consolidated view. "We needed a solution to replace our current processes, provide us with insightful instrumentation, and increase collaboration across teams so that when network performance issues arise, they can be resolved faster than ever."

With the help of Riverbed, NAPG now has a central view of its network traffic, enabling the technology team to detect, analyse and swiftly resolve any performance-related issues. The *SteelCentral* solutions used include *AppResponse*, *Transaction Analyzer* and *Packet Analyzer*. They will also help NAPG address previous gaps on the physical network and protocol aspects.

SteelCentral is a performance management and control suite that combines user experience, application and network performance management. Riverbed says it provides the visibility needed to diagnose and cure issues before end users notice a problem, call the helpdesk, or jump to another website out of frustration.





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The reality behind a virtual world

If you believe all the hype over the last few years, virtualisation is the way to go for all enterprise networks. But could virtualised desktop infrastructure lead to unforeseen problems? JAMES HAYES finds out.

Virtualisation offers several unique benefits. For example, Xangati says VDI administrators can “peer through the eyes” of the end-user all the way back to the virtual and physical infrastructure to troubleshoot bottlenecks.

The advent of server virtualisation has proved a boon to enterprise IT. Arguably, it has established itself as the standard way of containing the physical server estate while providing the virtual server domain needs of burgeoning business and also servicing the billowing commercial opportunities of cloud computing.

However, the drive to also bring forward virtualisation of enterprise desktops in recent years has received a more mixed response from both the end-user market and some quarters of the ICT sector.

For its fans, the virtualised desktop infrastructure (VDI) principle is a step toward the future of networked corporate computing. It offers new IT costing models, more secure multi-platform application provisioning, and ways to bring sprawl-defying order to enterprise network build-outs.

But the evolving VDI concept has also drawn antipathy from those who find cause to question the case made for its broader value-proposition, some of its cost-efficiency claims, and its operational viability going forward. To its critics, the VDI approach means hidden expenditure, flexibility limits, and yet another elongated learning curve for network managers and their IT colleagues.

Indeed, some see an approach that, by re-purposing elements of centralised computing that date back to the days of beefy mainframes and dumb terminals, is fit only for very specific deployments. They argue that even at best, VDI represents a transitional, rather than transformative, technological model.

“Sinkhole of complexity”

Some such commentators have pulled no punches in their depreciations. For example, Vivek Vahie, senior director at NaviSite, says: “While VDI seems like a

promising alternative to managing physical desktops and mobile devices, in reality it is too costly and complex for most companies to implement successfully.”

Endpoint Technologies president Roger Kay largely agrees here: “While virtualising servers is a no-brainer, doing the same with desktops just leads to a sinkhole of complexity, unforeseen costs, and little return on investment.”

Undaunted by such snipes, the pro-VDI lobby has maintained that by centralising IT resources and shifting away from outmoded notions of distributed computing, enterprises can realise financial and operational benefits, provision more flexible working procedures, and accommodate individual needs within a more cohesive networked IT regimen that will, for instance, keep BYOD under control.

You don’t have to look too hard for endorsements: multiple public domain customer stories from VDI market-leaders Citrix and VMware seem to bear testimony that such solutions work for them. Other thought leaders, such as Fordway MD Richard Blanford, suggest



that VDI’s potential is, if anything, wider than is generally recognised: “VDI is applicable for pretty much all industries and most use cases,” he insists.

Xangati specialises in solutions for intelligent performance management of workloads in virtualised environments. It believes secure application delivery and access is one of the key benefits of VDI adoption. Atchison Frazer, the firm’s marketing VP, says: “The VDI administrator has control over every desktop, every client device, and every application from one central console. [He or she] can now automate provisioning of services and orchestration of uniform security policies, and peer through the eyes of the end-user all the way back to the virtual and physical infrastructure to troubleshoot bottlenecks.”

In terms of a long-term assessment, arguments and counter-arguments around VDI’s intrinsic value-proposition are somewhat constrained by the fact that some benefits of its implementations are difficult to substantiate in strict benchmarking terms. By their nature, real-life VDI projects take a long time to yield the data that would validate claims made for them.

According to Mark Govan, senior director at converged infrastructure specialist VCE,

“The crucial stage is always the initial application discovery phase to assess the compelling factors which might tip the balance.”

*Kevin Clark,
Director of networks,
ECS*

VDI should be allowed to prove its worth on its own terms, and be appraised neither by alternative networking methodologies, nor against past issues dating from early adoption. He reckons “things have changed” and that the VDI proposition has evolved like most network technologies. Govan adds that solutions have now been developed which address some of the inhibiting issues that beset early-adoptive rollouts – such as trying to run it over existing incumbent infrastructures.

Any infrastructural transition usually means a major overhaul of much, if not all, of an enterprise’s back-end IT estate, and virtualising desktops also entails major re-investment in physical desktops. As such, VDI also requires a fundamental rethink of how IT services are operationally managed and budgeted for.

High definitions

Definitions of what VDI means and delivers might vary between vendors selling into a market which is not over-crowded. In addition to Citrix and VMware, VDI specialists include Dell, Listeq, Microsoft, Nimboxx, Oracle, amongst others.

One starting point for a conversation between networking strategists and potential VDI partners would be to clarify expectations borne of terminology, and ensure that common definitions are shared and agreed upon. That’s according to David Johnson, principal analyst and lead author of Forrester Research’s recent *Server-Hosted Virtual Desktops* report.

He suggests that IT specifiers and vendors sometimes use the term ‘VDI’ to refer to other types of digital workspace delivery systems, such as session-hosted desktops, DaaS, or local virtual desktops. Johnson’s definition is specific: a desktop-oriented service that hosts complete user



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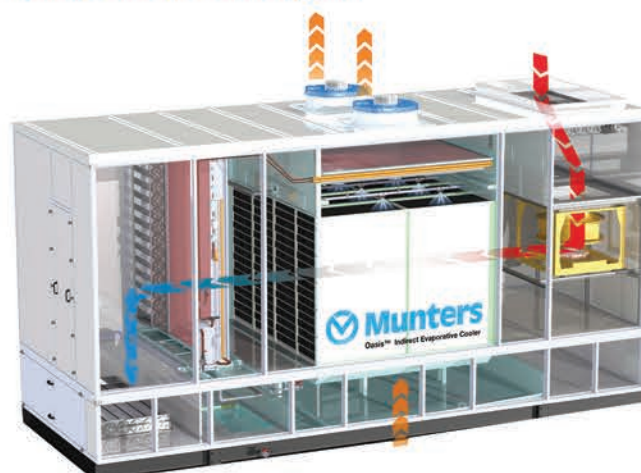
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desktop environments on remote servers, where each desktop instance runs within a VM on a hypervisor (but not on a cloud IaaS). Users access the desktops over a network using a remote display protocol, and a connection brokering service links users to their assigned desktop sessions.

The fact that 'pure' VDI is not typically cloud-based and relies on physical infrastructures that are on-premise or in data centres, means organisations that have adopted or considering it are self-selecting. They're likely to prefer owning their IT assets and managing them via an in-house team.

There's also a chance that they have to balance the requirements of new networked applications with some legacy operating systems, or very specialist applications that are 'not good mixers' – i.e. those that, for whatever reason, prefer to function in some sort of segregated environment. But creating

discrete virtual desktops to run different desktop OSs is one of the secondary requirements VDI can help with.

"VDI was supposed to address issues such as desktop OS migrations, flexible new business models, the need to reduce desktop cost-of-ownership, and demand for mobile device support," explains Fordway's Blanford. "However, VDI can create new issues. With enterprise-managed VDI, an organisation must build and maintain a solution in its own data centre. This requires it to manage desktop infrastructure, servers, storage, and hypervisors, as well as the virtual desktop images and applications."

He goes on to point out that because of VDI's perceived complexity and large upfront capital expenditure, its adoption can be "impossible" for many organisations, especially those without large data centre capacity and the relevant skills.

Govan says any enterprise organisation must have "rock-solid" infrastructures from the outset to run VDI. He says some have made the mistake of adopting VDI on a piecemeal basis with the intention of scaling it up as the requirement expands, or as the existing network infrastructure has to be upgraded.

Kevin Clark, director of networks at IT consultancy and services company ECS, supports this view: "The crucial stage is always the initial application discovery phase to assess the potential for retiring applications, end-of-life or unsupported systems, application compatibility, regulatory needs, and other compelling factors which might tip the balance."

Clearly, quality information collated at this stage helps build a more accurate TCO model that will reveal the hidden or unexpected network costs.

Clark also says that ECS' experience with several enterprise deployments is that there is not always an obvious, hard business case for VDI. But in general, he believes the intangible benefits of VDI in terms of platform consistency and multichannel access "far outweigh" the impact to the network.

Advocates of VDI usually focus on the fact that the centralised approach makes several routine network admin chores easier to get done. For example, it offers the ability to update and patch application and OS software for all virtual clients from the central server, rather than having to perform the task remotely. IT managers can then follow-up with desk-side support visits if something hasn't gone right.

There's also the benefit that all user data are stored centrally and therefore centrally secured. However, this may be less of a USP when so many organisations now mandate that user data are held on shared remote server volumes or in the cloud, rather than kept on local PCs or storage devices.

Blanford adds that the value of VDI for desktop OS migrations might also apply to situations where an old desktop OS might need to be kept running on a virtualised desktop in support of a legacy application. By the same token, specialist users needing dedicated operating environment for, say, CAD software suites can also have a virtualised desktop that's separated from their other OSs and applications without needing multiple physical workstations.

New thinking needed

What are the change impacts of VDI adoption for the IT and network practitioners who have to implement and manage such systems? Certainly, there are the demands of acquiring knowledge and experience of managing the VDI requirements in terms of back-end IT, networking, and client configuration. VDI solutions are largely vendor-specific, so gaining understanding of their inner workings calls for more extracurricular study. Recruiting and retaining skilled VDI practitioners may turn out to be an added impact on budgets.

Similarly, security at a network level will be another important skillset for IT professionals implementing desktop virtualisation, says John Spencer, CTO for Northern Europe at Citrix: "A secure centralised environment can deliver information out to users in a secure manner, but managing this technology



"Managing this technology requires a different outlook to those more traditional safety measures which focus on endpoint security."

*John Spencer,
CTO for Northern Europe,
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requires a different outlook to those more traditional safety measures which focus on endpoint security.”

Another aspect of VDI that might turn out to be a source of friction between administrators and users is its low-tolerance toward the ‘personalisation’ of the user desktop. Greater centralisation means staff are disallowed from customising their desktops in ways that have, for most, become the expectation in many organisations.

It’s not just about taking away the freedom employees had when it came to cluttering their office desktops with personal data. Individual users or groups may plead exceptions to the rules because the nature of their work wants them. Such requests might include drivers for peripherals, or supplementary software to enable features of core applications. Network managers will be mindful that with VDI, such code is stored on the central servers rather than the local hard drive.

Sometimes it is hard for IT staffers to decide whether a request for additional software to be added to an individual user’s image is justified or not. A *laissez-faire* policy toward this trend can lead to what’s sometimes called ‘image proliferation’, where the data traffic overhead on the central servers increases, and the responsibility for remediating any issues that arise from this extra code ends up with IT. However, enforcing a stringent policy toward such ‘asks’ can result in exception requests being escalated and in more meetings for the overstretched IT team.

Network provisioning

Because of the additional flow of data between host and client as a file or service is engaged with at the client end, the need for more extensive dedicated network bandwidth that also has very low-latency is another significant differentiator of VDI.

In such environments, data are being viewed and worked-on in a virtual state. The flow of that data has to have enough latency to ensure that the user experience is as good, or ideally better, than with conventional client/server working. But according to Forrester’s Johnson, maintaining application speed and performance remains a “stumbling block” for VDI vendors.

On enterprise networks where thousands of virtualised desktops may be in session at the same time, the demand overhead placed on the network is high, and latency considerations mean that traffic may not be re-routed via less busy part of the network.

Clark also warns that if video traffic has to be accessed as part of core applications being accessed by the virtualised desktop (or indeed as part of internal corporate communications) then network engineers may need to redouble their efforts to address the latency factor adequately.

He says VDI’s propensity to centralise compute power to data centres has fundamentally changed the classic network data flows and latency considerations. “ECS has encountered organisations with initiatives that were at odds with each other. They were aggressively deploying VDI, but also promoting multimedia solutions with video broadcasts that created heavy bandwidth usage, which VDI effectively ‘looped’.”

Clark believes that this has effectively led to the development and implementation of content delivery networks, software-defined networking, and network function virtualisation techniques as ways of counteracting the challenges of centralising.

Network latency is also a thorny issue for remote users of virtualised desktops. This is a major challenge to adoption because

remote workers are a constituency that VDI solutions must support. All the issues experienced by users trying to connect to a company host via private or public Wi-Fi are compounded, especially when a connection will have to be robust enough to support a secure VPN access in addition to virtual data exchange.

Upfront costs

VDI supporters might seem to be presenting the case for the adoption of a technological model that appears to obviate a lot of existing IT hardware (or at least require it to be upgraded), while necessitating the procurement of additional infrastructure (including new client platforms) at a time when IT budgets are squeezed. No surprise then that issues around VDI capital expenditure and operating expenditure

are so keenly picked-over. In general terms, implementing a virtualised desktop infrastructure calls for a greater proportion of initial capex because the servers and ICT resources have to be in place before the new network can be fully activated.

Plus, there is an argument with VDI that the centralised IT elements should be over-specified from the outset so that the system contains extra capacity for added redundancy and to manage any future growth, and minimise future upgrade disruption. Generally, this approach runs contrary to the way in which more conventional client/server infrastructures are built-up, especially in an era where server utilisation is pushed high in order to derive the maximum value from physical assets.

Although it’s feasible that some suppliers involved in a VDI project might accept payment in instalments,

there is still likely to be a much higher proportion of upfront costs with VDI: effective, ‘pure’ virtualised desktops need highly-effective physical back-end infrastructures.

And even if some existing desktop PCs can be reconfigured as pseudo-thin clients connected to a virtualised infrastructure working alongside new purpose-designed thin clients, traditional replacement and depreciation cycles are going to be altered.

Conventional network infrastructures have typically been built-out incrementally and consist of estates with mixed technologies of different ages, different protocols, and perhaps with some workaround solutions holding bits of it together. IT managers can wing and busk a few areas of integration, and it will still work to an acceptable level. But as VCE’s Govan warns: “This is simply not an option with VDI.” ■

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Some of the latest enclosures, racks and accessories to help house your hardware.

Eaton has added a two-post model to its RE Series of enclosed racks for use in IT infrastructure. It says the new 45U-high RE Series 2-Post rack is ideally suited for network closet applications for copper and fibre patching, or as a passive rack in large data centres where they can be used for distributing LAN connections.

The vendor reckons the new 19-inch rack features a simple, open frame mounting solution, yet provides maximum cabling access and capacity. It is also bolted together for easy on-site assembly and has what's claimed to be an "industry-leading" evenly distributed static load rating of 750kg.

Eaton says the open access design of the RE Series 2-Post enables quick and easy installation and provides secure connectivity for all internationally

recognised cabling standards, including Cat 8. It is also said to feature a "robust" floor mounting base that is pre-drilled for secure installation.

Adjustable cable spools are available to ensure that the performance of cables is not impaired due to tight bend radii. Eaton says these spools can be adjusted from 127mm to 203mm without the need for tools, and can be fitted directly to the frame of the rack or mounted inside of the vertical cable manager channels.

The RE 2 Post Rack is EIA 310 E compliant and is available with optional cable management accessories. They include cable managers in vertical or horizontal formats with either 140mm or 280mm widths or 1U, 2U or 3U heights.

Vertical cable baskets are also available in 100mm, 200mm or 300mm widths.

M Buttkeireit has extended its line-up of icotek cable entry products with the KEL-BES range. The manufacturer says the new products feature polyamide frames

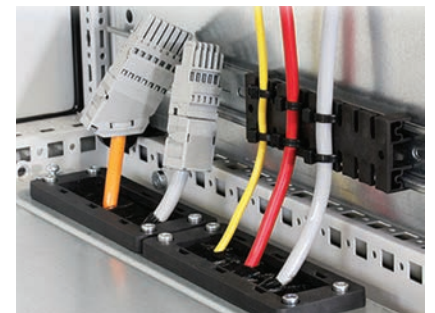
incorporating entrapped polyamide brushes, providing a quick and simple push-through entry for routing cables into network cabinets, control boxes, etc.

The firm adds that they are also ideally suited for exit/entry apertures in the raised floors utilised within computer centres.

Three frame sizes are currently available, all providing exact matches for the cut-out dimensions applicable to 10, 16 and 24 pole standard industrial connectors. The frames feature a 10mm thick projection above the mounting service, with a wide mix of round, flat and even pre-terminated cabling being accommodated.

M Buttkeireit says that the twin brush strips incorporated into each frame provide a self-sealing closure to whatever standard or mixed cabling is utilised. It claims this limits or prevents the ingress of all but very fine dust particles.

The black polyamide frames have a flame class of UL94-Vo and are halogen and silicone free. The company says they are suitable for operations within a temperature range of -20°C to +90°C.



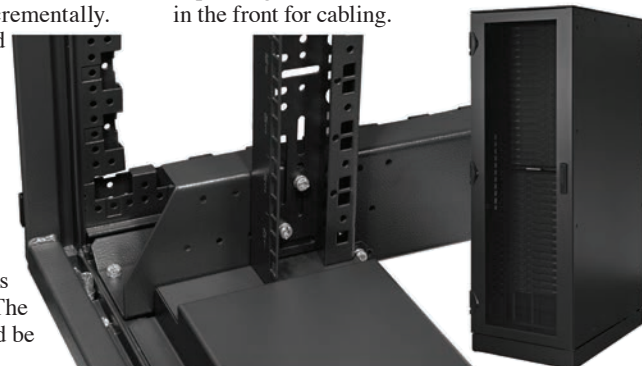
Pentair says that as there are presently no defined standards, it provides a test report to customers to certify that its Schrock Varistar server cabinets can meet static load requirements of up to 1500kg.

The cabinets are 2000mm high, 1200mm deep and 800mm or 600mm wide. As part of its tests, Pentair says it uses a weight of 2000kg and then increases load capacity incrementally. Deformation, not to exceed 5mm, is measured at five points of the cabinet rack and the 19-inch plane over a period of 72 hours.

After deducting the standard 25 per cent for safety tolerance, Pentair says a static load capacity of 1600kg is achieved for its Schrock Varistar cabinets. The company adds that it should be

noted that not all manufacturers take this 25 per cent tolerance into account.

According to the firm, the high load-carrying capacity is achieved using specially selected integrated cross beams. These feature holes spaced 25mm apart, enabling the user to move the 19-inch plane forward or backward in the cabinet, depending on how much room is needed in the front for cabling.



Rittal reckons its new TE 7000 offers a "masterclass" in design flexibility and versatility for IT rack installations.

Based on a self-supporting 19-inch frame, it says the robust enclosure can be installed from the front or back using the variable depths between the roof and bottom frame. According to Rittal, clearance between the front and rear mounting sections enables each position to be freely selected within specific and individual location points using a slot-securing system.

The TE7000 is available in heights of 25U, 42U and 47U, widths of 600mm and 800mm, and depths of 600mm and 800mm.

The chassis can be fitted with up to 400kg of slot-in components across both mounting levels. Rittal says the entire interior installation will fit compactly inside the frame while the side panels and doors are easily mounted on the outside.

The company claims the versatility of the modular technology also extends to the power and fans, as well as from the locking technology to the extensive safety devices.

It adds that fitting socket strips and lights or the doors and side panels can be done quickly and easily, and interior fittings with shelves plus a securing frame and cable clamping system all results in simpler handling and faster installation.



Tripp Lite hopes its expanded range of wall-mount racks will provide more options for IT managers

New models are available in sizes ranging from 5U to 26U, and include options such as clear acrylic windows, black or white powder coating, and NEMA cabinets for harsh environments.

The vendor adds that they are ideal for securing and organising rack equipment in a location with limited floorspace or in applications where a full-sized enclosure is not required.

The wall-mount racks feature locking, ventilated steel cabinets and come in a variety of depths optimised for patch panels, network switches, UPS systems and

servers. A wide range of accessories is also available, including rolling casters, shelving and ventilation fans.

All Tripp Lite wall-mount rack enclosures ship fully assembled for immediate deployment and have added features such as extra wall-mounting holes. The company says this makes it easier to align the unit with wall studs and dual purpose rails that support square-hole and threaded-hole equipment mounting.



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Giving the UK an IoT edge

Digital Catapult and the Future Cities Catapult are hoping to advance the UK's global leadership in the Internet of Things with the launch of IoTUK Boost.

Their initiative aims to increase the adoption of high-quality IoT technologies and services throughout businesses and the public sector, and includes a series of local innovation challenges and rapid incubation activities that will take place over the next five months.

Following an application process, the organisers have selected four partners to work with. They include CW (Cambridge Wireless), the international community for those involved in the research, development and application of wireless, internet, semiconductor and software technologies.

CW will work with IoTUK to identify up to 20 SMEs and bring them together with large companies or public sector organisations to help find solutions to specific challenges. Each 'boost' will culminate in two one-day workshops and innovation contests, with winners gaining access to business, technical and mentoring support from the IoTUK team.

IoTUK Boost will be delivered in each geographic area in early 2016, followed by one month of support activities which are set to take place until the end of March. CW will work alongside SETSquared with workshops in Bristol and Guildford focusing on the topic of assisted living. SETSquared is the business incubator partnership between Bath, Bristol, Exeter, Southampton and Surrey universities.

The three other partners in the IoTUK Boost programme include CENSIS, DataCity and Sunderland Software City.

How to keep cool in 2016

Cooling specialist Airedale International has published its 2016 training programme. The company says it has been running courses since the eighties, and offers a range of professional and practical instruction at its CITB Construction Skills approved centre in Leeds. This covers 37 separate sessions and 100 days of training.

The courses are designed for all levels from starter to expert, and are delivered by engineers with many years of experience, according to Airedale.

In addition to regulatory compliance, topics range from how to install, commission and maintain systems, to advanced techniques in maximising energy efficiency. To support theory-based instruction, the air conditioning,

electrical and brazing workshop areas at the company's dedicated training school allow practical skills to be developed.

For larger groups, Airedale says it will work with clients to design tailored sessions covering topics such as airflow in ducted systems, component identification and uses, psychrometrics, sound and sound measurement, and controls.

The firm adds that it is also accredited by CIBSE to offer a range of on or off-site continuing professional development programmes developed specifically for the needs of contractors, building service and consulting engineers interested in furthering their knowledge of data centre and HVAC technologies. Topics here range from aisle containment to performance metrics and maximising energy efficiency.

<http://tinyurl.com/opy8mnz>

NEW COURSES

Certified Network Cable Installer – CNCI
The CNCI programme introduces professional and industry recognised certification to cable installers. CNet says it is designed for those wishing to demonstrate the highest levels of knowledge, skills and expertise in network cabling infrastructures.

The firm claims its comprehensive programme offers a "perfect" mix of theoretical study and practical installation, with testing and survey exercises providing the right level of knowledge and skills for both copper and fibre cable installation practices.

It adds that the certification qualifies an individual to undertake cable installations to current industry standards while following the very latest codes of best practice. www.cnet-training.com/cnci

Introduction to Cloud Computing – QA
QA has announced its courses and dates for the next three months. Many of its programmes are offered at its regional training centres nationwide or can be attended remotely via web access.

They include the one-day *Introduction to Cloud Computing* which is suitable for engineering, technical management and sales/marketing staff. Delegates should have a basic understanding of the architecture and technologies that support the internet, as well as familiarity with technical IT, data storage and/or the provision of software or services.

The course covers the definition and benefits of cloud, enabling technologies, deployment and service models, and more. The next online session runs on 29 February 2016. Classroom places at regional centres are also still available <http://tinyurl.com/o5rp6w2>

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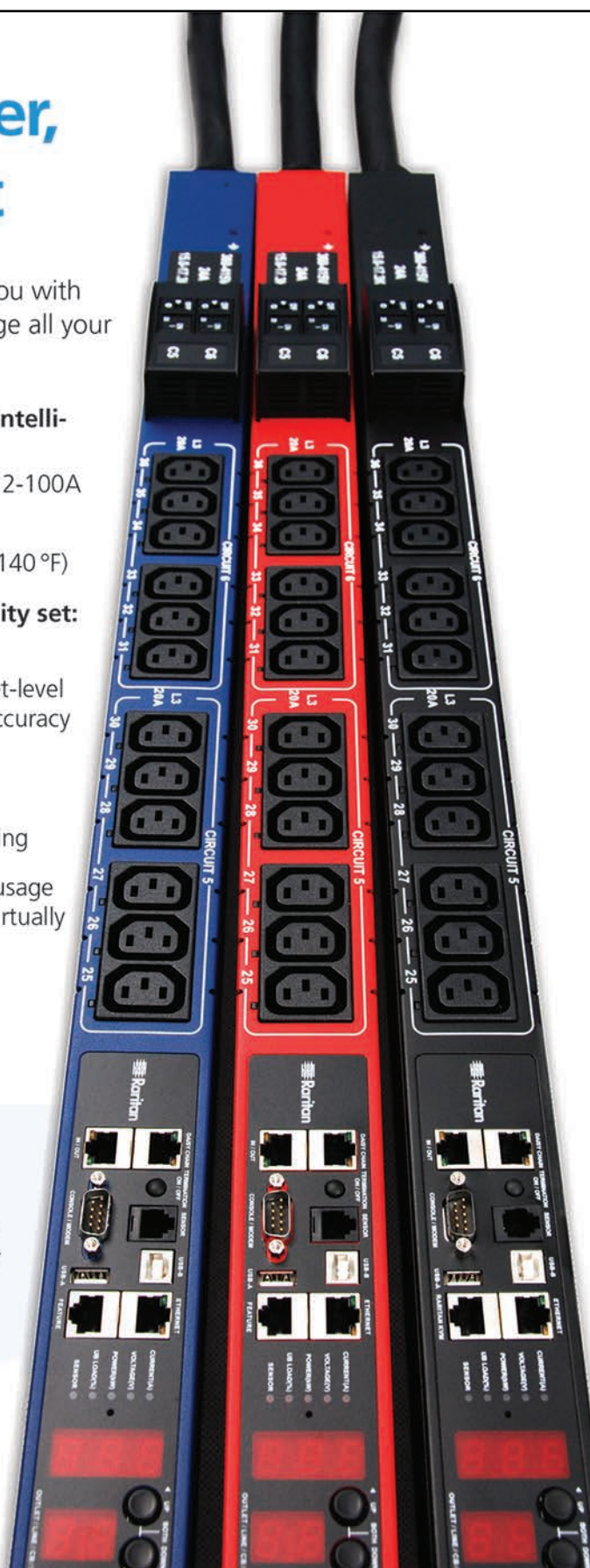
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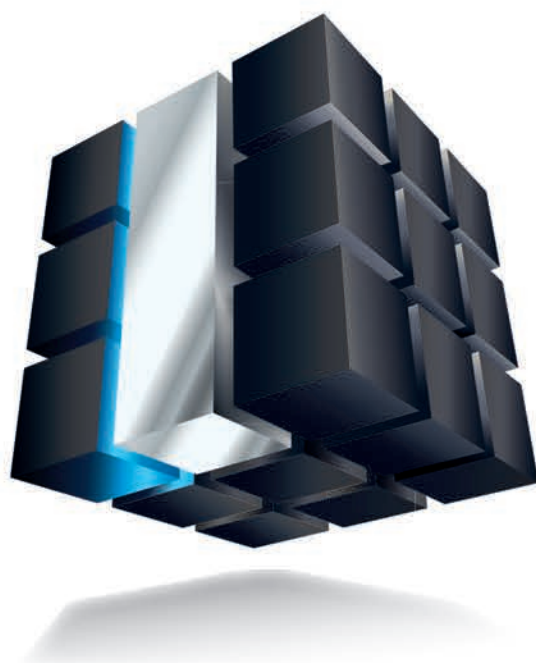


The workshop areas at Airedale's dedicated training school allow practical skills to be developed.



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