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Scotland's first 'home-grown' next-gen network is unveiled

by Rahiel Nasir

Scotland's businesses and public sector bodies could see a cut in network delays of up to 87 per cent with the launch of what's claimed to be the country's first locally-owned and developed nextgeneration network (NGN).

Edinburgh-based unified comms specialist CommsWorld has built its own high-speed business-only network which will accommodate extremely fast voice and data services across the region.

The company believes that the NGN will allow Scottish companies to better compete against business rivals in the UK and Europe by improving efficiency, disaster recovery and access to cloudbased services. It also promises to provide quicker access to data, thus avoiding 'bottlenecks' on existing networks.

The NGN has been newly upgraded and is based on carrier-grade Juniper equipment designed for super low latency performance. It is said to offer latency of just two milliseconds on connections Edinburgh and Glasgow, between compared with up to 15 milliseconds from non-Scottish telcos. It is also claimed to boast latency of 9ms on data traffic between central Scotland and London - said to be 50 per cent lower than competitors - and 4ms between Aberdeen and Edinburgh.

The network will be operated by Fluency, an ISP which CommsWorld recently acquired. Fluency plans to launch the network next month to provide wholesale Layer 2 Ethernet services via LLU, as well as a data centre that covers all

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of Scotland. It will operate a fully optical core network in London, Edinburgh, Glasgow and Aberdeen, interconnecting with BT Wholesale, C&W, TalkTalk, Virgin and others. The LLU PoPs are initially in Aberdeen, Edinburgh and Glasgow with more to follow later this year.

CommsWorld says that wholesale Layer 2 Ethernet connectivity will be available in the form of dedicated fibre, FTTC and a new exclusive EFM service

of up to 8-pairs. It adds that Ethernet WANs and point-to-point services can be configured across the network using a mix-and-match of access technologies.

Fluency is also spearheading support for Scotland's own internet exchange point. Working closely with LINX, data centre operators and other local service providers, it is driving an initiative to build common internet infrastructure in the country. CWW and VMB in joint SWAN bid - p4

Category 8 'confusion' predicted

Cable specialist Siemon has warned that the TIA's recent decision to adopt 'category 8' as the name for the nextgeneration balanced twisted-pair cabling system could create confusion.

system, currently under The development by the TIA TR-42.7 copper cabling sub-committee, will support 40Gbps transmission in a 2-connector channel over distances under 100m and could offer transmission up to 2GHz. The committee plans to call it 'category 8' but Siemon reckons this would be misleading.

In its Standards Informant blog, the company says: "Traditionally, cabling categories are supersets of each other meaning that a higher category of cabling meets or exceeds all of the electrical and

mechanical requirements of a lower category of cabling and is also backwards compatible with the lower performing category. However, category 8 is expected to have a different deployed channel topology and will not be a performance superset of category 7A."

Furthermore, the firm adds that whilst ISO/IEC category 7A is currently specified to a bandwidth of 1GHz, the nearly finalised IEC 61076-3-104 third edition standard for category 7A connectors is extending category 7A performance characterisation out to 2GHz. "This could mean two cabling specifications specified to 2GHz, with the TIA's category 8 having much lower performance than ISO/IEC's category 7A," it warns.

Google and MapR set new Big Data record

MapR Technologies claims to have created a new world record for 'MinuteSort' the benchmark for how quickly data can be sorted starting and ending on disks.

Using the Google Compute Engine and MapR Distribution for Apache Hadoop, the firm says it sorted 15 billion 100-byte records (a total of 1.5 trillion bytes) in 60 seconds. This surpassed the previous record of 1.4TB and is also almost three times the amount of data processed by the previous Hadoop MinuteSort record which was 578GB.

The new benchmark was completed on previously impossible."

2.103 virtual instances in the Google Engine. MapR says that each virtual instance consisted of four virtual cores and one virtual disk, for a total of 8,412 cores and 2.103 disks.

"The record is significant because it represents a total efficiency improvement executed in a cloud environment," says Jack Norris, VP of marketing, MapR Technologies. "In an era where information is increasing by tremendous leaps, being able to quickly scale to meet data growth with high performance makes business analytics a reality in situations



The Google Compute Engine is an IaaS product that lets users run Linux VMs on the same infrastructure that powers Gooale.

Citizens Advice Bureau combines VoIP with legacy platform

The Citizens Advice Bureau (CAB) is hoping to improve efficiency and reduce operational expenses by integrating new communications technology at the edge of its network.

Two of the organisations offices in Wavertree and Netherley, Liverpool, often collaborate to serve client needs round the clock. At the heart of the existing network for both the offices are two legacy Nortel Business Communication Manager (BCM) platforms.

Despite the system's limitations, CAB management realised that it did not make economic sense to replace it, particularly



since the core infrastructure still provided adequate service. They worked with networking services provider Locall.Net which recommended replacing the expensive ISDN links to the PSTN with SIP trunks that would carry voice calls across the IP network.



Contact: Riaz Khan, riaz.khan@wildpackets.com or visit our website: http://www.wildpackets.com/

Locall.Net's approach was to keep the BCMs at the core of the network, which allowed the CAB offices to continue their existing call routing and dial-plan configurations. The BRI lines previously serving to terminate the ISDN service from the PSTN at each site were then cutover to

Sangoma's Vega50 Gateway provides the TDM-to-IP conversion of voice calls and interconnects with CAB's Nortel legacy system.

> a Sangoma Vega50 Gateway. This provides the TDM-to-IP conversion of voice calls and interconnects the BCM at each site to the IP router that terminates the SIP trunks which are supplied by Gradwell.

> Sangoma claims the deployment of its gateway not only minimised service and reduced interruptions the implementation time, it also eliminated the need for user training, thus accelerating the path to a financial payback.

RCM outsources management of network to thin client platform

Following a detailed audit of its IT, the Royal College of Midwives (RCM) has appointed Ramsac to upgrade its networks and provide ongoing support and development for its mission-critical facilities.

The RCM is the UK's only trade union and professional organisation led by midwives for midwives. As well as a head office in London it also has offices in Belfast, Cardiff, Edinburgh and Leeds that provide support for members in each UK region. Because of the geographically dispersed nature of its organisation and members, the RCM relies upon remoteaccess IT systems for both its critical and day-to-day operations.

Having taken on the role of IT director, network manager and support provider, day-to-day roles to concentrate on."

Ramsac has helped the RCM to migrate its systems to a thin client model. The majority of services are hosted on the college's servers and accessed remotely, with full services being available to authorised users either via mobile devices or any internet-connected computer.

Chris Truman, RCM's director of business services, says: "It would be difficult for us to employ a full-time permanent IT manager that could offer the breadth of support that Ramsac now provides. Having our IT support and planning outsourced has allowed us to provision a well-designed and relevant system that enables us to fully embrace remote access, and helps to better cater for our members who have their vital

Sewer fibre network connects BBC

BBC Studios and Post Production has the sewer network. Requiring just a short commissioned a private fibre network from Geo Networks. The network will be part of the infrastructure that supports the BBC's relocation from Television Centre in west London, whilst a new site is being redeveloped there. In the meantime, it is working from its two Elstree sites.

To support the new set up, BBC Studios and Post Production required a two-year dark fibre connection connecting the two locations to send uncompressed HD video, audio, IT and other data between them.

Geo says that it leveraged its unique relationship with Thames Water to provide dark fibre between the Elstree sites using dig for the point-to-point connectivity, it says that the fibre is clipped at shoulder height within the sewers, making it impervious to street disruption.

"We work with a range of production companies, making live and recorded TV shows across a variety of genres for numerous broadcasters," explains Danny Popkin, technical development manager, BBC Studios and Post Production. "This requires us to transfer enormous amounts of data, including uncompressed video, between our Elstree sites. We wanted to have full control of the network management and this solution provided us with that."

Human error, not hardware, causes vast majority of IP network failures

Software bugs in Cisco's IOS heads a list of the top three causes of avoidable IP network failures and performance degradations encountered during 2012, claims Multiven.

The firm blames "ill-advised" software upgrades and unnecessary replacement of hardware in production networks by

inexperienced support personnel as the second-biggest reason for poor internet performance.

A third cause is inaccurate handover communication between the in-house support engineers of network operators

"Cisco software runs 75 per cent of the



THE WORLD ACCORDING TO... Emeka Obiodu, telco strategy analyst, Ovum

BSkyB's takeover of O2 broadband

Last month's news of BSkyB's takeover of 02 broadband makes the company the UK's second-largest broadband provider. It can now boast of having a bigger TV customer base and more broadband customers than its main rival, Virgin Media, which is itself being bought by Liberty Global for \$23.3bn.

Such consolidation will undoubtedly convert the UK's pay-TV and broadband markets into a three-way fight between BSkyB, BT and Virgin. This is the inevitable consequence of technology changes and intense competition. Local loop unbundling has largely run its course and any broadband provider that wants to remain relevant in the future will need to outline a path to fibre.

But that costs money. And with retail prices so low, and the return on investment tough to earn, pure-play broadband providers will struggle to survive. The market is now left with players that are able to spread the cost of fibre across more services, with its attendant economies of scope benefits.

For 02, the deal is significant as it now puts its hopes for a broadband future on LTE combined with Wi-Fi. In the recent auction it won spectrum in

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andrewl@kadiumpublishing.com **Production: Suzanne Thomas** suzannet@kadiumpublishing.com the 800MHz band which will be good for providing coverage, albeit with limited capacity. But it didn't get spectrum in the 2.6GHz band, which would have been good for high-capacity broadband over shorter distances.

Whether this was a strategic choice or a result of being outbid remains to be seen as Ofcom has yet to publish the bid history. However, it means that for its broadband services, O2 will have to rely on 800MHz spectrum and its existing spectrum holdings (unless a rival is willing to trade spectrum) combined with the Wi-Fi push it instigated in 2011. Its own fixed-line home broadband service is no longer an option.

The takeover also reduces the power of UK mobile operators in the converged space. At a time when telcos across Europe are intensifying efforts to offer converged services, mobile operators in the UK are making themselves much more reliant on mobile. EE still retains a presence in the fixed telecoms space but its offering is increasingly infrastructure-light. Ultimately, this is a dangerous scenario as it might reduce the strategic flexibility of the UK's mobile telcos in a converged future. world's IP infrastructure," explains Multiven CEO Peter Alfred-Adekey. "Unfortunately, because Cisco lacks the ability to proactively push bug fixes in the form of 'software updates' like Apple does, customer networks suffer repeated outages sometimes caused by the exact same bug on multiple devices in their install-base running the same software versions.

"This reverberates across millions of other similar devices worldwide. The bugs, a rarity compared to human errors, still cause massive havoc as the same bug instance is never correctly patched."

Multiven offers cloud-based maintenance services for IP networks. Its data is based upon a representative sample composed of three sources of data from more than 1,000 end-customer problems across telco, government, enterprise and academic networks worldwide. This information included: an analysis of



Multiven CEO Peter Alfred-Adekey says that internet infrastructure is "inherently reliable" at the hardware layer.

trending data collected in 2012 from technical support engineers worldwide; detailed analysis of the root causes of IP network problems resolved by Multiven in 2012 for organisations across all vertical markets; and observed endcustomer behaviour.

Alfred-Adekey goes on to say that only one per cent of IP network outages and degradations in 2012 were caused by faulty hardware. "It is thus safe to say that the internet infrastructure is inherently reliable at the hardware layer," he concludes.

WLAN deployments in colleges falling short of expectations

Wireless networking in higher education institutions is being hampered by sporadic connectivity across campuses and a poor take-up of the latest Wi-Fi technology. Those are some of the findings of recent research conducted by Meru Networks which asked education IT departments and students about their biggest Wi-Fi challenges on-campus in relation to BYOD and mobility.

According to the survey, the locations of "trouble areas" where IT departments receive the most calls for lack of connectivity or unacceptable network performance has now changed.

Meru says a year ago these were the lecture halls and libraries where students gathered with their laptops, tablets and smartphones. But now, 51 per cent report that "residence halls or dormitories" are the biggest problem spots, while about 25 per cent identified lecture halls and libraries.

The airwaves in the halls of residence are becoming congested, mainly due to the significant increase in the number of other Wi-Fi devices such as game consoles, Smart TVs, and other appliances that share the same wireless space with smartphones, tablets and computers.

The vendor says that some of these issues could be resolved by using the latest Wi-Fi standard. But it found that despite 802.11n offering almost 3x the throughput,



4x the spatial streams, and 2x the range of 802.11g, 77 per cent of the 230 respondents had not fully migrated to it. While only 23 per cent have fully deployed 802.11n to support video and voice streaming (which Meru says "is very difficult" with multiple users on 802.11g) only 55 per cent have campus-wide pervasive Wi-Fi coverage.

"What this survey indicates to us is that students want to enjoy 'uninterrupted learning' – wherever, whenever and using whatever Wi-Fi-enabled device they have," says Sarosh Vesuna, vice president and general manager of Meru's education business unit. "We are seeing an expectation gap, where student demands for pervasive coverage and high-capacity Wi-Fi is often unmet by traditional WLAN deployments."

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£3.8m expansion for C4L data centre

C4L says that its Milton Keynes data centre has undergone a major £3.8m expansion to cater for increasing demand at the site. The development of the tier 4 facility will bring its total capacity to 37.000soft. The firm says that the expansion caters for large and small businesses who rely on mission-critical data and allows customers to scale as and when their business demands increase. The data centre offers a range of services including colocation, connectivity, cloud and communications. C4L adds that the facility operates to ISO27001, supports high rack power densities of up to 15kW, and provides 0.2ms of network latency.

Working at home is on the rise

Only a guarter of UK workers now spend five days a week in the office, according to a recent survey carried out by Siemens Enterprise Communications (SEC). The company says this is in "stark contrast" to five years ago when 57 per cent spent the entire week in the office. At the other end of the scale, it found that the number of people spending less than one day a week in the office has doubled from seven per cent in 2008 to 15 per cent today. SEC carried out its research at UC Expo earlier this year and says its findings highlight the need to "unlock the potential of virtual teams". While many respondents said that mobility was key to the shift in working patterns, the company warns that many businesses still don't have the correct infrastructure and processes in place to support remote workers.

UC at Co-Op

Co-Op Financial Services has completed the first phase of a unified communications deployment at its Manchester and Stockportbased contact centres. It is using Aspect's Unified IP platform on a purely outbound basis for customer insurance and deal quotes, collections from unpaid debts, and tracking the progress of retail customer accounts. Phase one of the deployment is now live for more than 200 debt management contact centre agents. Phases two and three will cover the firm's general insurance and retail arms and will be rolled out by June. The platform has already reportedly saved the company 100 hours per month in meeting collections targets.

C&W Worldwide and Virgin Media Business partner to bid for SWAN

Cable&Wireless Worldwide (CWW) and Virgin Media Business (VMB) have teamed-up to bid for the Scotland Wide Area Network (SWAN) programme. The contract is expected to be awarded in October with a service "go live" date in April 2014. If successful, CWW and VMB will sign a six-year deal that could be worth up to £325m.

The SWAN is designed to deliver a single public sector network for information sharing and collaboration available to all Scottish public service organisations. The programme is intended

Tonv Grace, Virain Media Business MD. claims the partnership with CWW will "shake up" the traditional approach to wide scale networking.

to deliver both cost and performance advantages, and ultimately aims to enable a better Scotland through improvements in digital access, working and public services. VMB MD Tony Grace reckons that the

partnership with CWW offers a "unique"

opportunity to "shake up" the traditional approach to networking on this scale. He claims that it will deliver a transformational solution that not only provides opportunities for cost savings, but will also be the "force for change" that the public sector needs to deliver against its ambitions.

Brian Woodford, managing director of public sector at CWW, adds: "Our collaborative approach brings together two forward-thinking organisations with huge technical experience, a combined network infrastructure and large local presence which is unrivalled in this country.

No slurred speech or blurred vision at brewery thanks to new voice and video IP system

Independent family brewer and pub operator Hall & Woodhouse (H&W) has deployed а new communications infrastructure, which includes voice and video over IP, in an effort to introduce faster and more efficient services.

H&W has more than 250 pubs and hotels and over 1,500 employees across its Blandford Brewery and public house estate which covers the south of England. It relies on a service that allows fast communication and decision-making along with easy access to information at all its different locations.

The firm had an ageing, end-of-life telephony system which has now been replaced with an Alcatel-Lucent platform. NextiraOne built the new solution using the vendor's OmniPCX and OpenTouch systems running across a Cisco LAN. The company claims it was able to design and implement the solution within six weeks from the initial discussions.

The new system gives staff the ability to switch seamlessly from device to device, making use of video conferencing functionality via Open Conversation for

iPad, or talking on the move on a range of handsets such as smartphones. Selected team members will use OpenTouch 8082 phones while others will use OpenTouch Media Services through the client application installed on their desktops, along with IP Touch digital handsets provided by NextiraOne.

H&W plans to migrate to the new platform in stages, allowing ongoing communication between the new and the old systems, and dramatically reducing disruption to the its operations.

Fire service rescues weeks of budgeting time

Hereford and Worcester Fire and Rescue Service is using additional software from TechnologyOne to help it meet new accounting standards and streamline operations in the long term.

In 2007, it deployed the firm's software for accounting and stock inventory and added asset management last year. All this helped it to meet the requirements of the Audit Commission's National Fraud Initiative which matches electronic data within and between audited bodies to prevent and detect fraud.

The organisation has now implemented the TechnologyOne Budget module and is also about to launch a self-service e-procurement portal for its stores. The new

modules are part of a longer term vision to address their needs quickly while still build a sustainable platform for process improvement and financial accountability.

We are devolving budgeting down to stakeholders to link financial movement down to the operational level of the organisation," says Martin Reohorn, director of finance and assets at the fire and rescue service. "With the help of TechnologyOne, we have shaved weeks off the process and increased budgeting workflow visibility to key stakeholders.'

The e-procurement portal will allow the distributed fire station managers to electronically order items for stores while speeding up the approvals process. Reohorn says that it will also help frontline staff to

retaining control over budgeting.



Hereford and Worcester Fire and Rescue Service has more than 800 full-time operational staff and firefighters spread across 27 fire stations.



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³ Based on IDC while paper "The Economics of Virtualization: Moving Toward an Application-Based Cost Model," Michelle Bailey, November 2009, http://www.mware.com/files/pdf/Virtualization-application-based-cost-model-WP-ENpdf Optional IBM Flex System storage node available fourth quarter 2012.

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EC funds mobile cloud services and apps

German IT firm Nettropolis has announced one of the first deployments as part of the EC-funded MobiCloud project.

The initiative hopes to stimulate the provision of new mobile services in the cloud and to support the emergence of a European ecosystem of mobile cloud application developers.

MobiCloud is led by a consortium of pan-European companies spearheaded by Swedish cloud specialist Appear with the UK represented by engineering firm Costain and the COMIT Projects group.

Nettropolis is providing mobile cloud services for the Karlsruhe Public Transport Authority (Verkehrsbetriebe Karlsruhe or

VBK). The deployment provides a suite of cloud applications for mobile control centre and field staff involved in vehicle operation. It aims to make public transport greener, safer and more efficient by improving the coordination between staff using standard smartphones and tablets.

Nettropolis says the applications will deliver a number of benefits such as: operational cost savings through communications efficiency improvements; shorter passenger journeys through realtime communication of incidents to vehicle staff; better compliance through improved attribution; and fault cleanliness improvements via incident reporting.



Companies risk spiralling monthly costs thanks to BYOD

Employee use of personal smartphones and tablets as part of corporate bring your own device (BYOD) schemes is costing companies more than £60 per month per device. As a result, cloud-based telephony services provider Teliqo believes that organisations need to give greater consideration to how they finance their workforces' mobility and connectivity.

A study carried out by iPass earlier this year found that more than 80 per cent of companies now allow their employees to use their own hardware for work purposes.

But with monthly bills of £61 per device, these firms are running the risk of negating the productivity benefits they experience, warns Russell Lux, Teliqo's commercial director.

"What's more, that cost is likely to rise as more people buy 4G-capable handsets and next-generation networks facilitate and encourage even greater data consumption."

Lux advises that the best way to keep BYOD spending in check is to extend the organisation's own telephony system to incorporate all the connected devices. He says this will bring all calls, texts, and data under a single provider.

"A cloud-based service that gives each employee full access to their work phone system on their personal smartphone and tablet - including the ability to send and receive calls from a single work number - can insulate organisations against the spiralling costs associated with dealing with multiple providers," he says.



VIEW FROM THE TOP Darren Gross, EMEA director, Centrify

The importance of mobile security and SaaS management

As a way to manage mobile devices and access to Software-as-a-Service (SaaS), a cloud service is by far the most effective tool at the IT department's disposal. After all, mobile devices introduce variables into the workplace that a sole desktoponly approach has never produced.

While desktops have remained securely based in offices, protected by the corporate network and multiple onpremise security systems, mobile tablets and smartphone devices can access corporate resources over unsecured Wi-Fi hotspots, operate over 3G/4G networks, and are stored in people's pockets and bags. When a smartphone or laptop is lost or stolen, there is a good probability that sensitive business information could be compromised in the process.

At the same time, organisations are rushing to SaaS in an effort to move business initiatives along faster than the traditional cycle of implementation, integration and ongoing maintenance associated with on-premise applications. IT organisations and enterprises alike hope to leverage SaaS in a costconstrained environment to shift from a capital to operational expense model.

Businesses are finding that they can vastly reduce IT expenditures and deploy services quickly, but this can create unnecessary confusion for the end user as the business environment is transformed into a mess of web-portals, hosted services, and multiple log-in

details - requiring a user to manage the resulting password sprawl.

Most employees will store log in details somewhere that is easy to access and generally unsecure, including unencrypted files, email drafts, or in physical form (perhaps in a notebook or on the back of a business card). They will often use simple passwords that don't meet business best practices for password security.

Clearly, IT organisations should be concerned about the relative ease with which non-IT departments can purchase and activate SaaS applications without considering the security implications of adding an additional identity store and giving users another credential to remember. When SaaS application rollouts are rushed, critical controls for approving employee access are often overlooked, resulting in higher costs and dissatisfaction among users.

A cloud-based security and management service can protect these mobile workers, providing a security shield for both the device and the applications that employees access on the internet, anywhere and at any time. A cloud service, built in addition to the corporate network, could simplify employee's lives by providing a single log in to every device, piece of software, or service. It is a revolution in security and access management that businesses are desperate for, particularly as the rise of the mobile enterprise will only increase.

Cloud security fears – feature pp8-11

IT managers 'clueless' about cloud

IT managers have "failed" to effectively adopt cloud services to improve business efficiency, and the industry's key companies aren't helping, according to Jim Darragh (*pictured*), CEO of cloud software

provider Abiquo. He says his firm recently conducted a survey which revealed "alarming" survey statistics on the lack of cloud strategy and integration. It found that 84 per cent of IT managers have yet to make the most of cloud technology.

"Time and time again the same issues are coming up: it's not self-service; there's no single interface for technology; and the components aren't working together. The bigger players in the cloud market aren't solving these problems yet they control the market share. This is causing frustration in the industry and confusing IT managers.' IT questioned 200 Abiquo professionals at Cloud Expo Europe earlier this year and found that more than half had defined no cloud

Uninterruptible Power Solution:

strategy to follow at all.



Realising the potential

Most resellers are still unaware of the very attractive margins that can be made from the UPS sector. Many assume there isn't a profitable return and little or no way to add value. This could not be further from the truth. Resellers can add additional profit if they were to consider the entire power protection system. With an increase in spikes and power fluctuations, UPS systems have become critical appliances for most organisational structures and end users only need to be educated on the significant benefits that a UPS unit can deliver.

Small outlay, big rewards

Borri's single phase 1-3kVA range of UPS systems are some of the most resilient solutions available and are priced at a realistic cost putting into question the true value of some industry leading counterparts. The success of the company's plug 'n' play systems has been achieved by adopting the same high quality design and precision engineering used in the company's industry leading three phase UPS products. As one of the few remaining European designers and manufactures of Uninterruptible Power Supply (UPS) products, Borri has one of the most extensive selections of back-up power products available. It prides itself on the flexibility, resilience and efficiency of all its UPS solutions and has pioneered some of the greatest single phase topologies.

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direct on: 01246 431 431 or visit www.borri.co.uk to find out more.



6

Networks in motion

The right network solution for the transportation sector is vital – any downtime often means that the company's wheels guite literally grind to a halt.

Parking with security

VINCI Park is said to be the world's largest car park operator and manages nearly 1.5 million parking places in over 2,500 sites around the world including the UK, Europe and North America. It was founded in 2001 by VINCI which designs, builds, finances and manages the operation of on-street and off-street car parks for private and public entities.

Any organisation using, storing or transmitting credit card data must comply with the PCI-DSS standard. In 2011. VINCI Park researched a number of network security vendors that could meet the standard's requirements and sent a request for proposal (RFP) to local integrators that represented those vendors.

"Even though we had never been attacked and our network was secured against banking data theft, we wanted to protect our customers further by complying with the PCI-DSS standard," explains Guillaume Martin, deputy director of VINCI Park's IT system department.

Axians, a networking and telecoms integrator and a subsidiary of VINCI Energies, won the RFP to integrate and support the deployment of security appliances for the firm. The Fortinet FortiGate platform was chosen for its ability to "easily and cost-effectively" meet PCI-DSS compliance requirements.

Fortinet says its system offers a number of key features including: a firewall for partitioning the infrastructure traffic flows; VPN for encrypting electronic money transactions; anti-virus and IPS for attack detection; QoS for prioritising payment transactions; and the ability to create compliance reports. The vendor adds that "tight" security integration enables the platform to meet the PCI-DSS requirements without adding "unnecessary complexity" or costs.

390 FortiGate-60C and 110 FortiGate-50B appliances have been installed at 500 car parks in France. Deployments have also been completed in the UK, Czech Republic, Slovakia, Spain, with further rollouts in other countries due this year.

"Fortinet technology allowed us to secure and partition transactions from end-to-end, between the payment terminals located in our car parks - that allow our customers to pay for their parking by credit cards - and banks. Today, these transactions are strictly directed to banks and are saved and decrypted by those only," says Martin.

All the appliances are remotely managed from VINCI Park's headquarters in France using the *FortiManager-1000C* centralised management platform. The company is also using the FortiAnalyzer 2000B to log daily data from all the appliances and create PCI-DSS compliant statistics and reports.





Onyx Group hauls the data for Eddie Stobart

Eddie Stobart delivers outsourced transport and logistics solutions for a wide variety of manufacturing, retail and public sector customers across the industrial, consumer, food and defence sectors. The firm has around 5,500 staff nationwide and works in partnership with its clients to transform their supply chain structures in order to optimise efficiency.

With its rapid growth, Eddie Stobart realised that it needed to completely revitalise its IT infrastructure if it was to meet the future demands of the business. It turned to Onyx Group to update its IT system and help implement appropriate infrastructure which would match its growing IT demands and requirements.

The firm needed a robust highavailability system and decided that storing its critical servers and data offsite, in a data centre specifically built to host data securely, was the best option.

Working with Onyx, Eddie Stobart installed high availability IBM iSeries and associated Wintel servers at Onyx's Glasgow data centre and other servers at its Newcastle-upon-Tyne facility, with the intention to move other key servers in future.

Onyx says that the purpose-built data centre offers a "secure and resilient" environment for storing business data. The Glasgow centre is also in close proximity to Scottish city centre workplaces, and this ensures travel time is kept to a minimum.

The company adds that it has a number of data centres "strategically" placed across the UK. This gives Eddie Stobart access to its cross-country technology supply network that can be used if it loses connectivity via its main network provider. By rerouting via the Onyx network downtime is avoided, which is especially important to large-scale businesses such as Eddie Stobart.

Furthermore, Onyx says that by using an offsite data centre provider with highly scalable facilities, Eddie Stobart can "rest easy in the knowledge" that spikes in demand - driven by potential mergers or acquisitions for example could be handled easily.

Vince Sparks, IT director at Eddie Stobart, says: "One of the greatest benefits of working with Onyx Group is that we can focus on running the business safe in the knowledge that our data, critical to business operation, is being looked after correctly and safely. We feel the partnership works really well - I'm in regular contact with Onyx, and have a good rapport with the team.

No more 'dead mileage' for cabbies thanks to 02

London-based CityFleet is part of the Comfort DelGro Group, claimed to be the second-largest ground transport provider in the world. It offers taxi and car services under the ComCab, DataCab, Call-a-Cab and Comfort Executive brands across the UK, and also operates a coach company.

In London alone, CityFleet has 2,500 vehicles, and mobile communication is central to its business. The firm provides account customers with 'Cabcharge' cards which offer a convenient way to pay for services in-car without the need for cash. Around 13,000 transactions are carried out every day in the capital, and it's critical each message is transmitted quickly.

However, drivers often find themselves in parts of the city where high buildings, neon signs, tunnels and generally busy areas pose a challenge to reliable network coverage. CityFleet had been using a PMR (private mobile radio) network for its dispatch solution, but decided to move to a GPRS-based system which would allow it to send much richer data over the air, at a much faster rate with less

degradation, and all without expensive infrastructure. In 2008, the company began using O2's mobile services with a phased approach so that by summer 2009 all its London taxis were equipped with a mobile data terminal (MDT).

Malcolm Paice, head of operations for CityFleet Networks, says that since installing the new system, his company has experienced a significant increase in productivity. "The dispatch cycle could be up to four minutes using PMR. That's a long time in our business. Now it's down to 20 seconds. This makes a huge difference as it eliminates 'dead mileage' with drivers driving round waiting for their next job. Now we can dispatch jobs as soon as they come in."

He adds that the replacement of the PMR system with GPRS has resulted in savings of around £100,000 per year for CityFleet.





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All IT networks need to be secure, regardless of how they're delivered. And yet when it comes to cloud, security fears continue to be the number one reason for organisations who remain reluctant to migrate. RAHIEL NASIR finds out why.

or every ten industry insiders who highlight the 'FUD' (fear, uncertainty and doubt) about cloud security, you're likely to come across an equal number of experts who say that such concerns are unfounded.

Even the European Commission (EC) has stepped in. Last year, it announced the €10m *European Cloud Partnership* initiative aimed at overcoming the barriers, saying that urgent action was needed to "support speedy uptake of cloud computing in Europe". (See Networking+, February 2012).

So what's the reality behind cloud security? In a recent joint report, IT specialist Ramsac and legal practice DMH Stallard LLP said that keeping data secure is not so much about whether it is on-premise or in the cloud as it is about putting in place proper safeguards. It advises organisations to classify data according to importance, adopt security measures accordingly, and says they should undertake diligence on their providers. "Make sure they have a good reputation, have achieved recognised accreditations and have addressed security to your satisfaction," says the report. Further advice for IT departments is to take practical steps to protect data and then cover this off in the contracts with customers, staff and suppliers.

"Many of the same safeguards that apply to hosting your own IT network onpremises need to be applied if data is stored remotely," says Ramsac MD Robert May. "It's important that organisations fully investigate their own specific security needs and potential problems, and ensure that any data held in the cloud passes the same vigorous checks as it would do if hosted anywhere else."

CIF chair Andy Burton agrees and says that security is neither more nor less of an issue for any specific service or deployment model – it just has to be properly assessed, delivered and managed.

"Typically, when people think of security concerns about cloud computing, they think of the multi-tenancy nature of SaaS applications, use of an untrusted network (i.e. the internet), and the trophy status of a large cloud service provider versus an average organisation in terms of external malicious attack.

"The key thing to remember though is that there are solutions to these concerns and that the type of cloud deployment model requires different security considerations. This will place a different emphasis on who is responsible for certain tasks," says Burton.

"Fear of the unknown"

This view strikes a chord with Stéphane Estevez, senior product marketing manager EMEA/APAC for backup firm Quantum. He says that cloud means less visibility of the details compared to an internal solution and it's this lack of visibility that often results in "fear of the unknown".

But he goes on to point out that cloud security isn't really any different to any outsourcing contract, and that a pragmatic, 'back to basics' approach should be adopted by IT managers.

"If it doesn't make sense to outsource critical data in certain industries, then it won't make sense to use the cloud. So a clear classification of what type of data can be outsourced and what type needs to stay under full company control is the first step, even before talking about the cloud security aspects," advises Estevez.

Risk assessment is the next consideration. "If you're a small company, and your data is not an interesting target for hackers, it's highly probable that a cloud solution may be more secure than your own IT infrastructure (to take just one aspect of security here) and your risk level is low.

"For large enterprises, a hybrid approach (mixing cloud, public and private, and onpremises systems) could be a good way to mitigate risk and get the flexibility and cost benefits of cloud solutions (whether we are talking about IaaS, PaaS, SaaS, or XaaS)."

For Estevez, a back to basics approach also means you need to look at all aspects of the service. Users should find out if the provider is reliable, faces any risk of bankruptcy, how they can recover their data if the contract ends, if the data is encrypted, and who can access it.

"It's the same questions asked previously for any outsourcing contract," he says. "At the end of the day, the most important question is: what is my acceptable risk; and is the value provided by the cloud solution I'm looking for greater than the risk?"

That all sounds straightforward enough – but perhaps not for the 82 per cent of UK businesses who still worry about cloud security, according to some of the latest CIF research. As a result, Burton says it's vital that the industry takes the issue seriously.

"Cloud providers need to be clearer upfront with their customers at communicating the approach to security that they provide, and what options are available to adapt this, without compromising security in the process."

He adds that the language about classification of security risks and solutions needs to be communicated in a standardised way, allowing procurers to more easily compare and contrast different providers when making purchasing decisions. "Tied to this is education amongst end users to ensure that they are clear on what they need to look out for technically, commercially and legislatively to ensure data security when migrating to a cloud-based solution."

The CIF has launched a Security Special Interest Group which aims to provide clarity, insight and education on the security implications of cloud computing. The group is chaired by Michael Darlington, technical director at Trend Micro, and will work to improve end user awareness and drive best practice for end users and service providers.

Darlington believes that although the risks associated with cloud aren't inherently greater than traditional IT, it does present a unique set of challenges that must be addressed and properly managed. "Understanding the right balance of people, policy, processes and tools for different cloud-based environments will be one of the key objectives," he says.

The human factor

Another key recommendation highlighted by the Ramsac/DMH Stallard report is that organisations shouldn't just look after their technology – security is also about people. Chris Russell, VP of engineering for Swivel Secure, echoes this view. He points out that with a growing number of user names and passwords (UNPs) to remember, and more users taking "comfort in the cloud", individuals are flouting best security practice and standardising their login details by re-using UNPs across multiple personal and corporate apps.

"Naive, yet highly negligent repetitive usage of UNPs by employees, could be the security downfall for SMBs as they migrate to the cloud," warns Russell. "By obtaining an individual's UNP login details for one personal app, hackers potentially get a whole host more. Strict access controls imposed by traditional Choose where in Europe you want your data, then move it as often as you like. Interoute Virtual Data Centre.

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cloud security

corporate firewalls are being eroded and business critical data stored in online apps such as *salesforce.com* or *Office365* is being left significantly exposed.

"Unbelievably, companies continue to surrender access control to these [app] providers because they are either unaware of the risks or unaware that they can retain authorisation control within their own domain. Some app providers, such as *salesforce.com*, can be configured to redirect users back to the corporate domain so that credentials are verified using the company authentication solution."

Russell goes on to suggest that this model can be applied through a standalone platform that provides authentication services to all corporate cloud and remote network access apps. He believes that this puts companies firmly back in control of their corporate gateways. "With the right platform, enterprises can apply different user authentication policies which can be managed centrally."

Like Swivel Secure, Pontus Noren, director and co-founder of cloud migration specialist Cloudreach, also believes that the retention of data control is key to cloud security.

"Data protection legislation states that there is always a data processor and data controller, and a customer never actually 'hands over' its data. This doesn't change when the cloud is involved – all large and reputable cloud services providers are only ever the data processor. For example, the provider will only ever process data on behalf of its customer, and the customer always maintains its ownership of its data and role of data controller. "Concerns around compliance with in-country data protection regulations are rife, especially when dealing with other countries. Across Europe, for example, data protection laws vary from country to country with very strict guidelines about where data can be stored. A substantial amount of data cannot be moved across geographical boundaries, so the security practice of replicating data across the globe has far-reaching compliance applications for data protection."

Cloud – a better security option?

Noren adds that while some may feel concerned about the potential risks their business might face if they embrace the cloud, in the majority of cases the move actually represents a security upgrade:

() Pulsant Staying Safe in the Cloud

Most potential failures lie in how cloud is applied, maintained and supported. It is vital for businesses to ensure that SLAs reflect this and are established at the outset when the right supplier is being sought.

Pulsant offers the following guidelines to help define optimum service levels for your requirements:

() Identify User Access Safeguards

Make sure your cloud provider can supply specific information about the privileged administration rights to any information stored within the cloud environment, and can tell you exactly what access controls are in place.

(Ensure Regulatory Compliance

If you're involved in a tightly legislated industry make sure your cloud platform supports any relevant data standards. For example retailers and ecommerce providers are required to ensure PCI DSS compliance. If the hosting platform is already pre-certified it can help reduce scope – lessening your operational burden without compromising security.

(Specify Data Location

For certain data applications, particularly those involving financial services or sensitive customer details, organisations may need proof of location. From a legal point of view, this may mean restricting it to certain countries. Some suppliers rely on offshore datacentres for storage provision. Make sure your cloud provider is aware of any location sensitivity and can respond with clear and exact details of where your data is stored. Getting your cloud from an in country local data centre can also help address issues associated with latency if you need to be able to access information in real time.

Firewalls are vital in the cloud. However, some cloud vendors provision the virtual machine (VM) directly on the internet without any form of separate firewall, leaving it up to the business to lock down their data on a local level, either using the capabilities of the OS or implementing other services, which may incur additional costs. Ensure your provider uses virtual data centre technology to provide segregated environments on a shared platform with virtual or physical firewalls as standard and can provide assurances and SLAs that ensure nobody else will be able to access your data.

(Outline Options for Recovery

While not strictly a security concern, back-up is important to safeguard your data. Your cloud provider should be able to counsel you on worst case scenarios to help you ensure that the correct level of replication is built in from the outset and an appropriate backup regime is established.

(Request Investigative Support to Flag up Risks

This isn't always practical in a large multi-tenant cloud environment, as distinguishing each business's traffic from the other customers can be extremely difficult. However, if you require such levels of security ensure your cloud provider can design and deploy additional security services including managed intrusion detection services within the cloud environment. This ensures that all data is passed through a network intrusion detection system (NIDS) device and monitored by support personnel 24/7. You get an instant alert if there is an attack and evidence and monitoring for retrospectively investigation should a breach be discovered.

This is an extract from a Pulsant white paper called 'Taking Control of Your Cloud' – to secure a copy of the complete white paper email Paul Hughes, Head of Marketing, at paul.hughes@pulsant.com

www.pulsant.com

"Reputable cloud providers have made vast investments in their security setups – so much so that an individual organisation would be unable to cost-effectively match them."

Managed services provider Prism Total IT Solutions supports this view and says that sectors such as accountancy could in fact be more secure by migrating to cloud.

"Last year's data meltdown at RBS and failing web services due to electric storms served as a warning to UK businesses to backup all their data," says Prism co-founder Richard Alexander. "But there are instances when 'cloud accountancy' really can be safer."

He says that new EU legislation expected next year will impose much tighter control on data protection – accountants who do not comply with the new measures will be fined as much as two per cent of their total turnover.

"To conform to tough new data protection control, the communication of all financial documentation will have to be encrypted. Currently, about 75 per cent of accountants are not encrypting financial statements, tax returns or other documentation which they send to their clients by emails. [Instead], accountants can store all their data in encrypted form in the cloud and communicate with their clients only through a secure portal. Emails are still used to alert clients when documentation is available but their data will be safe from hackers."

Alexander's advice is that the cloud should form part of an individual business' IT suite rather than an off-theshelf ready made solution. He believes that it is vital cloud computing is seen as a complementary service to enterprise infrastructure – not a replacement for it.

According to Quantum, another 'red herring' when it comes to cloud security is data location. "In most cases, if your company is based in London, the constraint to 'physically access' the servers or cloud infrastructure will be the same if you're working with a UK cloud provider with a data centre in Birmingham or a German provider hosting your data in Munich," says Estevez. "In both cases, you can't physically access the devices. So unless you have specific legal/compliance requirements, it's better to focus on the vendor SLA rather than the location."



"If it doesn't make sense to outsource critical data in certain industries, then it won't make sense to use the cloud."

Stéphane Estevez, Senior product marketing manager, EMEA/APAC, Quantum

clou<u>d security</u>



"Cloud providers need to be clearer upfront with their customers at communicating the approach to security that they provide."

Andy Burton, Chair, Cloud Industry Forum

However, focusing on the service level agreement could be easier said than done. David Rowe, security expert and a member of the Infosecurity Europe Advisory Council, says: "Research from our colleagues, National Cloud and ANS Group, shows that only 14 per cent of IT directors and managers think their cloud provider offers a service agreement that meets the needs of their organisation.

"Developing an effective security strategy – and deploying that strategy – is a lot easier than achieving an SLA that meets the needs of any organisation seeking the highest levels of data protection in the cloud.

"The process of negotiating a truly effective SLA requires a high degree of understanding about cloud data transport and allied resources, as well as the cloud IT resource itself. And that in turn mandates that the person doing the negotiating has had the necessary security education required."

Rowe adds that it is important to realise that the cloud is actually a remote data centre, rather than a local one. Once this concept is grasped by IT security professionals, it then becomes possible to extend an organisation's information security and governance envelope around the cloud data resource.

You're gonna need backup

Enterprise class IT security is about more than just firewalls, user access directories, encryption, etc. It is also about protecting against data loss, user errors and data corruption, and that's where backup and disaster recovery (DR) come in.

In March, the Onyx Group revealed the results of a survey which found that less than two in ten SMBs in the UK backup all of their data, and that 23 per cent still record to tape. The firm, which specialises in data centre IT services, business continuity and cloud, says that this is despite the fact that 50 per cent of all tape backups fail to restore (according to separate research from Gartner).

"There is an obvious need for companies to rethink their data protection strategies and to take advantage of more sophisticated methods of securing data such as online backup into secure data centres," says Onyx CEO Neil Stephenson. "Best practice data protection systems should allow a company to recover its most critical data first and then use a stepped approach to recover less essential information. Offsite backup to a data centre is more secure than onsite backup, which is typically at greater risk."

Is this foolproof? For instance, Prism's Alexander warns that accountants will still need to operate backup systems for their data even if it's cloud hosted: "The fact that state-of-art cloud data centres at RBS wiped out the transactions from 17 billion bank accounts last year serves as a timely (and grim) warning to all UK businesses that are storing all their data in the cloud. No system is infallible and businesses should always have a contingency plan, be it local stored data or account hostware."

data, or several backup systems." But Quantum's Estevez wonders whether the risk of outsourcing is bigger

Gigamon

than the risk of not having a disaster recovery plan. "The news is full of examples of hacking, but what is more likely to happen – having a security breach or being affected by a natural disaster or corrupted data?," he asks.

As a result, his firm offers *Q-Cloud* which comprises BaaS (Backup as a Service) and DRaaS. It's is based on deduplication technology to reduce bandwidth costs and improve restore time, and is aimed at small companies or remote offices in large organisations that have budget constraints and can't afford a disaster recovery solution.

Estevez explains that to help reduce the perception of risk, *Q-Cloud* offers end-to-end encryption (when collecting data, in transit and at rest), a private cloud approach, and data centre location choice, all while keeping costs as low as possible (since the initial threat is not having DR for costs/resources reasons).

"The truth is that there is no 'one size fits all' solution. Quantum provides cloud services but also the technology to help customers build their own cloud backup. This is because many enterprises are looking for a hybrid approach, not only to separate the data sets (with criticality criteria, location or responsibility requirements), but also the infrastructure approaches such as outsourcing the data centre part (power, cooling), but not the technology management.

"So as cloud adoption grows, security threats will grow as well. But is the vulnerability any bigger than that existing in any IT infrastructure? And can the IT team face all challenges themselves without the help of external solutions?" The answer to all that should now be clearer.

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IIM was developed to enable realtime infrastructure management through the use of self-aware network components, a central data repository, and intelligent processes.

While Intelligent Infrastructure Management is not new, many have been reluctant to adopt it as a way to boost IT performance and efficiency. BRAND-REX and RiT TECHNOLOGIES discuss why it's take-up has been slow and explain what the key benefits are.



Martyn Davies, Technical consultant, Brand-Rex

B rand-Rex technical consultant Martyn Davies believes Intelligent Infrastructure Management (IIM) was launched way ahead of its time and is only now beginning to gain popularity as IT managers look to increase the efficiency of their day-to-day network operations.

"For far too many years in the majority of organisations and data centres, managers have either deliberately not used IIM (perhaps through a misguided belief they were saving costs), or have discounted it by not truly understanding the real costs of not having it. This has resulted in a bizarre situation. Every aspect of their network is fully managed and visible at the network operations centre with one shocking exception: the physical layer. Layer 1 is the foundation of every network. For whatever reason, the essential cabling that connects all of this high-value IT equipment (which in turn serves even higher value business services) has been left unmanaged,

needing the efforts of technicians to perform old-fashioned cable-tracing whenever a physical layer fault occurs.

"And with recent research from the Uptime Institute and DCD Intelligence pointing to upwards of 70 per cent of data centre downtime being due to human error, it seems a strange paradox that although the solution to this problem has been around for a dozen or more years, it hasn't found major uptake until now.

"Before the advent of IIM systems, network managers had to rely on traditional methods of maintaining documentation. These often took the form of handwritten records or *Excel* spreadsheets. Apart from the sheer amount of time it takes to perform such actions, this process is not in real-time and is prone to human error. It takes just one inaccurate or omitted record for the whole system to soon find itself in a state of chaos. For large companies, or those with multiple network sites, this can prove to be a major administrative challenge.

"Indeed, research has found that 80 per cent of organisations admit their records are inaccurate. This can result in extended periods of unplanned downtime, high levels of asset wastage, reduced productivity, and less value from an already constrained IT budget. An IIM system will streamline documentation processes and substantially reduce the operational costs of network ownership – bringing a much needed focus to quality service provision.

"According to BCS, The Chartered Institute of IT, in instances where qualifying the physical layer is part of the incident management process, IIM can reduce the mean-time to resolution by over 40 per cent, providing the potential for huge savings in IT resources and lost business output.

"Of course, in businesses where high values are being transacted – such as airline reservations, financial trading and in links connecting the combined traffic of multiple virtual servers – the opportunity cost of those lost business outputs can often be measured in millions of pounds per minute. Which puts the 'cost-savings' of having an unmanaged physical payer into stark contrast."

Cost effective?

"In the early days, vendors would make elaborate but compelling ROI arguments for the adoption of IIM. When closely examined, these figures would often indicate that a network needed to be above a certain size to prove cost effective.

"Some adoption issues have been down to determining where IIM fits into the overall infrastructure. In some cases it has been the cabling installation company that has had to promote the IIM concept to the end user, and when the subject comes round to money, it has often been rejected due to the additional cost of implementation.

"IIM should be addressed as a separate network issue and purchased and deployed with a clear strategic objective. Assuming the customer is the right 'fit' for IIM, the premium paid for the technology on day one is easily offset by the savings achieved through process improvements and greater operational efficiency (let alone the business interruptions mentioned above). The return of investment really depends on the degree to which the system is deployed and how it is aligned to, and utilised by, related processes and applications. Installed and used correctly, it is feasible for the initial outlay to be recouped after 12-24 months.

"But it's vital to be able to demonstrate the ways in which savings will be made in addition to having a comprehensive logistical argument. Using IIM for proactive rather than reactive infrastructure management can actually extend the life of an organisation's investment in its network."

Changing times

Davies points out that while IIM has typically operated on a cross-connect basis (which remains an important topology), recent developments have enabled an inter-connect topology which is the preferred method in the zone areas of many data centre. (*Also see Bringing IIM* to the inter-connect environment, right.)

'Being able to now deploy IIM in interconnect and mixed interconnect/crossconnect topologies helps to minimise the deployed hardware. It allows more flexibility in design and enables optimal use of available rack space. These systems can be installed on Category 6 and 6A cabling systems, in either unshielded or shielded variants, as well as on fibre in all current standard fibre types up to 40/100G with SC, LC and MPO/MTP connectivity. "For instance, the software used on Brand-Rex's SmartPatch technologies is based on a client/server application on top of an SQL relational database. It works via standard SNMP with a network topology of intelligent hardware in order to control. map and monitor both the physical layer and active LAN equipment. A unique feature called P-LÊT (Proactive LAN Equipment Topology) tracks end-to-end network connectivity from PCs, IP phones, printers, etc, through the connecting hardware to the network equipment.

"In the UK, the development of the IIM market is showing year-on-year growth, with the financial market having been the first sector to fully utilise its benefits. More recently a range of other markets, such as petroleum and communications, have begun to recognise the benefits of IIM, while organisations that perform a large number of moves and changes (MACs) and have immature processes, or which have multiple locations to manage, are often good candidates for its adoption. "Energy efficiency is a high-priority area organisations have to pay close attention to and IIM can help them to understand and act upon the information provided through performance metrics and environmental monitoring, and access control tools. The latest generation IIM software offers a more holistic approach to data centre management, incorporating the ability to interface directly with environmental and power systems, allowing a greater degree of visibility and control to further enhance the green capabilities of the DC operator."

Compliance

"IIM should be considered by companies that, as well as requiring greater control and visibility of their infrastructure, have to comply with Sarbanes-Oxley, Basel II and other regulatory requirements. It is also a highly complementary tool for organisations adopting best practices for process optimisation and service management. These disciplines include processes for configuration management, capacity management, change management, and problem management.

"The ability to improve mean time to respond and root cause analysis, and provide automatic population of the database with real-time, reliable connectivity information are among the many synergies between the features of IIM and the disciplines set out in the Information Technology Infrastructure Library (ITIL), ISO20000, EN50174, EN6701, ISO14763 and TIA606.

"IIM can also make a difference to service provisioning efficiency, which can be massively improved in terms of better response, reduced planning time, and more accurate deployments and documentation by utilising the system's automatic provisioning capability. This can be customised by an end user to guarantee compliance with corporate security policies, while further enhancing ITIL compliance."



Julia Geva, Assistant vice president for marketing, RiT Technologies

Il aspects of the IT infrastructure must be meticulously planned and executed, says RiT Technologies' Julia Geva. She warns that human error of any sort leads to wasted resource utilisation in the best case scenario and network downtime in the worst.

"With the goal of streamlining and error-proofing network infrastructure operations, RiT Technologies pioneered the IIM concept some two decades ago. The idea was simple but powerful: to enable real-time infrastructure management through the use of selfaware network components, a central data repository, and intelligent processes. In fact, research from Gartner (*DCIM* *Going Beyond IT, March 2010*) has repeatedly shown that more rigorous management can save as much as 20-30 per cent of an organisation's overall operating costs.

"Such massive savings become even more compelling when you consider the emergence of new industry communications standards which are mandating the implementation of automatic infrastructure management systems as a best-practice foundation."

"Today's IIM solutions manage all the components of an IT environment, including the full range of equipment, power and cabling infrastructure, cabinets and supporting equipment, cooling and environment monitoring elements, and security. Amongst its many functions, IIM brings new efficiency to the following IT routines:

Provisioning and service deployment: An IIM solution can streamline and automate the planning and implementation of flawless MACs, shifting the focus from 'how to provision' to 'what to provision'. In planning the MAC, the system considers the status of the entire network infrastructure together with all the rules you have established, calculates the optimal resource allocation, produces a multi-team work order and then tracks it until it is complete. The result is reduced downtime and human error, and an increase in productivity. **Fault management:** The best systems

Fault management: The best systems continuously monitor all connections at the patching level, and provide an immediate alert when they sense any faults or disconnections. The IT staff, armed with the exact location of the fault in real-time, is able to correct the problem immediately, thus minimising downtime.

Asset management: As IT equipment becomes more mobile, it becomes harder to track. The sheer cost of the kit, together with the growing scrutiny of governmental watchdogs, dictates the establishment of better asset tracking mechanisms. IIM automates the process, continuously monitoring the status, attributes and physical locations and movements of all network assets, including automatic discovery of moves or changes of servers, PCs and IP phones. For many, the 're-discovery' of 'lost' or orphaned equipment more than justifies the cost of the system.

Power management: Escalating power consumption costs and new environmental legislation is making it more important than ever to automate the management of environment and power elements of today's crowded data centres and comms rooms. RiT's IIM solution enables organisations to obtain a holistic 'green' view of their infrastructure, providing critical baselines for use in disaster recovery, provisioning, and more.

Security: IIM acts as an 'invisible agent' that automatically seeks out suspicious activities related to the network infrastructure. Its real-time monitoring capabilities enable the system to identify illegal or unscheduled connections or disconnections, and more. The alerts can be delivered and handled remotely.

"All infrastructure is a challenge to manage but never has the challenge been as evident as in today's resourceconstrained IT departments and data centres. With significant space, power, and environmental issues, data centres and communications rooms must be designed with utmost care, and continual maintenance," concludes Geva. And that's where Intelligent Infrastructure Management comes in. ■

Bringing IIM to the inter-connect environment

RiT Technologies claims that *PatchView*+ is the first range of hardware components for more complex cross-connect to interconnect network environments.

The firm says all the components have been designed to allow easy growth, control and management of an unlimited number of ports in real-time, while supporting copper, fibre or combination environments with speeds up to 40/100Gbps. It adds that as *PatchView+* features fewer components and uses less electricity, it also enhances an organisation's 'green profile'.

To maximise design flexibility, the system's hardware supports both interconnect and cross-connect network topologies, whether for copper or fibre infrastructure. The product range includes Cat6A copper patch cords, as well as LC-LC and MPO-MPO patch cords to support both topologies in various applications.

It also features the *PatchView+ Card* – a pluggable device that supports physical network identification on inter-connect and cross-connect topologies. RiT says the card automatically detects and reads up to 24 SMART ID devices present on each copper frame or fibre tray and on patch cords. The *PatchView+ Collector* continuously gathers connectivity data from the card and routes it to a specified agent on request. It can be installed in either a zero U configuration for rack space optimisation or as 1U configuration.

"By abstracting the connection between active equipment and copper frames or fibre trays, *PatchView*+ enables cords to be connected and disconnected without losing their individual IDs," explains the firm. "This transparency allows *PatchView+* to bring ultimate design flexibility and agility without sacrificing space, control or efficiency – no matter how frequently you add copper frames, fibre trays and/or network devices, or how continuously you need to carry out MACs."

In addition, it offers automatic management of environment sensors, sending out alerts in real time whenever pre-defined limits are compromised.

Meanwhile, Brand-Rex says there are now IIM systems available which meet the needs of enterprises of all sizes. For instance, it offers the *EPV Cable Management Solution* from RiT Technologies but with Brand-Rex connectivity. It is a standalone solution that requires no additional software or servers, allowing all types of businesses, from SMEs to larger organisations, to experience the benefits of IIM.

EPV has been designed to offer the key elements of a traditional enterprise monitoring system without the complexity. Similar to RiT's *PatchView+ Collector*, it gathers information from patch panels and communications racks and detects any changes in connectivity.

The system notifies designated staff of any unauthorised changes by email and they can then access specific details from a permission-based GUI via a web browser. According to Brand-Rex, this process makes network monitoring simple and effective.



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off-the-shelf: remote management

Just a click away

Need to manage your network from afar? Here are some of the latest KVM switches and appliances that could help.

Adder has launched several products for remote network operation and management.

They include the *XD500* which extends two display port video streams plus highspeed USB (480Mbps), analogue audio and digital audio (SPDIF) over 100m of CatX cable. Adder says the link is capable of supporting a single screen with a 2560 x 1600 resolution at 60Hz, or two screens running at 1080p. It also reckons the link is lossless so that every pixel is "faithfully reproduced" at the receiver unit.

The vendor has also released an enhanced version of its *CCS4USB* command and control switch (*pictured*). This now includes features to support complex keyboards and mice and a screen identification module. Adder says the switch enables a user to work across up to four

IHSE's latest range of compact KVM and DVI matrix switches are designed for small and medium-sized installations. The company says the compact versions of its *Draco Tera* line-up are ideal for deployments that do not require the extended bandwidth, fibre connectivity, computers and screens via a single keyboard and mouse, "significantly reducing clutter".

The CCS4USB is designed to deliver "seamless switching" of USB 2.0 and audio, using an upgraded version of the firm's USB True Emulation technology. It adds that the most significant new feature is the Free-Flow technology which enables the user to switch control of computers by moving the mouse cursor

seamlessly from screen to screen. Meanwhile, the *ALIF2112T* is described as a "high performance" KVM server that can be accessed remotely via IP with a VNC viewer and/or simultaneously with an *AdderLink Infinity* receiver. Adder says serving a VNC equipped video wall processor and user station at the same time reduces the control room complexity.

or modularity of the full *Draco Tera Enterprise* system.

The new switches are said to offer versatility and convenience for 16 to 48 totally flexible input and output combinations over copper connections. Like its *Enterprise* stable mates, IHSE claims the



Compact range offers the fastest KVM switching available today with no blank screens or delays associated with re-synchronisation, giving full and immediate access to source computers from remote consoles.

Based on Gigabit technology, the *Compact* includes the vendor's *Flex-Port* technology for fully automatic, dynamic allocation of input and output ports, with auto-reconnection and hot-swap. IHSE says ports can be combined to support single, dual and quad-head configurations, and the devices can also serve as a full-bandwidth HD video matrix.

Connection to source computers and consoles over Cat X cable is achieved through dedicated interface units, supporting various configurations of Single-Link DVI up to 1920 x 1200, USB-HID, and USB 2.0.

The Virtual Secure Lantronix Management (vSLM) appliance is a software version of Lantronix's rack-mountable

SLM appliance (*pictured*). It is said to function as a 'master control centre' to seamlessly integrate equipment connected by Lantronix console servers, KVMs, and remote power managers. It also supports access and management of non-Lantronix network devices such as servers.

Lantronix claims that through a centralised point of access and common interface, the *vSLM* enables administrators to quickly and easily manage and access

Opengear has added the ACM5504-5-G-W-I to its range of Remote Infrastructure Management (RIM) gateways. It is designed to offer a range of connectivity options to easily manage critical infrastructure at local and remote sites to help ensure uptime and business continuity

The ACM5504 is a wireless access point which supports 802.11 b/g/n, and integrates cellular, wired and wireless access to allow direct management of Wi-Fi enabled devices. Opengear says it also provides the option of wireless access to network management using mobile devices such as tablets and smartphones.

The new access point is part of the *ACM5500* range of *RIM* gateways which feature dual SIM slots and provide serial console-port connectivity, environmental monitoring, power management and monitoring, and remote site storage of

Raritan claims that its *Dominion KX II* represent the first KVM-over-IP switches to support multiple analogue and digital video interface standards in a single device. Unlike other switches that only support analogue VGA-video, the firm says the *Dominion KX II* range supports both analogue (VGA) and digital video (DVI, HDMI, and DisplayPort).

The *KX II* line-up includes devices from one- to 64 ports. They are designed to enable multiple IT administrators, both remote and local, to access and control multiple servers. Raritan says the switches provide BIOS-level access so that all servers are always accessible – even if a server's operating system is not working.

The *KX II* also enables remote installation of software, file transfers, data backup and diagnostics with its *Universal Virtual Media* feature, and can control power to servers with

optional remote power distribution units. Raritan claims



transmission from more than 140m away from the switch.

IHSE reckons that the advantages of its *Compact* system is in its ability to be configured with additional software modules to meet application needs exactly, over-and-above its comprehensive core functionality. These include the *Draco Tera* tool which provides a graphical user control interface, API for bespoke system access and control, SNMP and Syslog management.

To support future application expansion, units can be stacked or cascaded to expand the number of inputs and outputs available on a single system.

equipment anywhere in the

enterprise with just a few mouse clicks. The virtualised central management appliance is VMware compatible and consolidates management of IT infrastructure, maintaining a secure central point of access for all equipment. The firm says that it dynamically discovers devices on local or remote subnets, and reduces troubleshooting, repair time, total cost of ownership and administrative resources.

offline logs and running configuration files. The ACM5504 adds wireless capabilities to the range and enables: a single communication solution for multiple device and protocol aggregation; wireless device connectivity for troubleshooting; wireless sensor connectivity; and Wi-Fi to cellular bridging.

The ACM5500 range also includes environmental sensors, local 4GB storage, automated remote management and support, and enterprise grade security. It also features internal v.92 and cellular modems which Opengear says enable outof-band access from anywhere in the world.



that the switches provide the industry's best HD remote video resolution (1920 x 1080 pixels) as well as multi-monitor support.

The vendor's latest Computer Interface Modules (CIMs), which now support DVI, HDMI, and DisplayPort video technologies, can connect a server's keyboard, video and mouse ports to the *KX II*. Raritan reckons this solution "eliminates the need for the expensive, and sometimes unreliable" digital-to-analogue adapters required by rival KVM switches. It also cuts the associated cabling and power costs.

According to the company, supporting multiple video interfaces will become increasingly important as the industry moves away from VGA towards new digital video interfaces. It points out that major manufacturers such as Apple, Dell and Intel are expected to begin phasing out support for VGA and DVI-I, and replacing them with newer

technologies, such as DisplayPort and HDMI.

network knowledge

10	
video conferencing to conduct interviews?	
Access to better quality tools	56%
Increased recruitment of domestic, out-of-town candidates	41%
Increased recruitment of international candidates	32%
Shortlisting candidates for in-person interviews	32%
Increased prevalence of low-cost tools (i.e. Skype)	31%
To avoid the commute	21%
Other	1%

OfficeTeam UK's survey was based on more than 600 interviews with senior executives.

Job candidates will need to be video stars

More than 41 per cent of HR directors in the UK are now using video conferencing to conduct interviews compared to three years ago, according to a survey conducted by recruitment consultancy OfficeTeam UK.

Many of the 600+ senior executives polled across the UK reported that they currently find it "challenging" to look for skilled professionals.

When asked why their company had increased the use of video conferencing to carry out interviews, 41 per cent said that they were now recruiting more domestic, out-of-town candidates. A third of the companies surveyed also said video interviews had risen because of increased recruitment of international candidates. OfficeTeam says this mirrors the number of those looking to shortlist candidates for in-person interviews (32 per cent) and the increased prevalence of free or low-cost tools, such as Skype (31 per cent). Fifty-six per cent of HR directors cited access to better quality video conferencing tools as their reason for using the technology.

"It is very important that candidates treat video interviews as they would a face-to-face interview," advises Phil Sheridan, MD, OfficeTeam UK. "Hiring managers will still be assessing attributes such as non-verbal communication, professional attire and confidence when being interviewed."

PEER1 wants Olympians

PEER 1 has launched a recruitment drive for Olympic athletes struggling to find jobs following *London 2012*. With a number of successful athletes reportedly out of work after the games, the hosting and colocation specialist sees an opportunity to take advantage of their skills and determination.

"To hear about so many athletes struggling to find employment seems totally ridiculous and a complete waste of talent," says EMEA MD Dominic Monkhouse. "These are people who push themselves to the limit in order to achieve one of the highest sporting accolades – and attributes such as determination and a drive to succeed make them exactly the kind of people I want working for PEER 1 Hosting."

The company already has an ex-athlete on its payroll. Donya Fitzsimmons competed as a gymnast in the *World Championships* and is now a member of the PEER 1's business development team in Southampton. Fitzsimmons says she has always had a "very competitive nature" and claims that this has helped her fit in to the team well.

£1 million of free training

Firebrand Training is giving away IT training courses worth £1 million to in its Free Training For Life competition.

One winner will be able to take as many IT courses and exams as they want for the rest of their life, for free. The prize includes all training and exam fees, course books, food and accommodation costs.

Firebrand estimates the winner will increase their earning power by more than three time over their lifetime.

The company adds that it offers more than 165 courses covering technologies from Cisco, Microsoft, Oracle, Lean Six Sigma, PRINCE2, and others. There's even a course which teaches delegates how to become a certified ethical hacker.

Entries close 1 September 2013. More details at *firebrandtraining.co.uk/ftfl*.

NEW COURSES

The Cloud for Telecom Operators – Telecoms Academy

Hadoop specialist MapR Technologies has teamed up with system integrator Big Data Partnership (BDP) to deliver Europe's first MapR certified training courses.

This two day programme starts with the concepts and features of cloud services before looking at the underlying technology and architecture that underpins the cloud. It also covers the issues facing businesses and consumers when migrating. Study topics include access technologies, security, trust, billing, pricing, IT infrastructure, device management, integration with other services, and partnerships.

The course takes place live online from 28 April to 2 May 2013. More details at: *www.telecomsacademy.com*

ITIL Foundation Certificate in IT Service Management – QA

This three-day classroom-based course offers comprehensive first-level training for anyone involved in the provision, support, and delivery of IT services. It covers the fundamentals of ITIL (the IT Infrastructure Library) core volumes which provide an end-to-end view of IT and its integration with business strategy. The core volumes include Service Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement.

It culminates in a one-hour multiplechoice examination which is optional but will be needed for final certification which is also a pre-requisite for the further training ITIL programmes.

The course is available on a variety of dates in the coming months at a selection of nationwide venues. *www.qa.com*





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