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Cisco "re-invents" networking to make it fit for the future

By Rahiel Nasir

What's described as the "network of the future" has been unveiled by Cisco. The company claims its intuitive system constantly learns, adapts and automates to optimise operations, and stops security threats in their tracks

According to Cisco, organisations are currently managing their networks through traditional IT processes that are not sustainable. The firm says its new system is the result of years of R&D aimed at re-inventing networking for an age where engineers managing hundreds of devices today will be expected to handle a million by 2020.

By automating the edge of the network and embedding machine learning and analytics at a foundational level, Cisco boasts that it is making the "unmanageable manageable" and allowing IT to focus on strategic business needs.

The company believes it is in a unique position because the vast majority of the world's internet traffic runs on its networks. As a result, it has been able to capture and analyse valuable data to provide IT teams with insights to spot anomalies and anticipate issues in real-time.

The technologies behind Cisco's intuitive network include hardware, software and a suite of services designed to work together as a single system.

For instance, the new *Network Data Platform and Assurance* analytics platform categorises and correlates the vast amount of data running on the network. It then uses machine learning to turn that into predictive analytics, business intelligence



It's claimed the "intuitive network" creates an intelligent platform that will help businesses unlock new opportunities and solve previously unsolvable challenges.

and actionable insights. It interprets data in context which, according to Cisco, is what enables the network to provide new insights, resulting in better security, more customised experiences and faster operations.

The network also utilises Cisco's *Talos* cyber intelligence and machine learning

to analyse metadata traffic patterns. This is designed to identify the fingerprints of known threats, even in encrypted traffic, without impacting data privacy.

(continued on page 2) Is SD-WAN the future of enterprise networking? Feature pp11-13.

ICO fines council for data breach during outsourcing process

The Information Commissioner's Office (ICO) has fined Gloucester City Council (GCC) £100,000 after a cyber attacker accessed council employees' sensitive personal information.

The attacker, who claimed to be part of the Anonymous hacking group, took advantage of a weakness in GCC's website in July 2014. This led to more than 30,000 emails being downloaded from council mailboxes. The messages contained financial and sensitive information relating to around 35 former or current staff. The breach also resulted in *Twitter* accounts belonging to senior council officers being compromised.

The attack exploited the *Heartbleed* bug in OpenSSL and occurred when GCC was outsourcing its IT systems. In its penalty notice to the council, the ICO stated that Gloucester's IT staff had identified the *Heartbleed* vulnerability in its systems by using a SonicWall appliance which contained an affected version of OpenSSL. By that time, the notice points out that a patch had been released to fix the flaw. But while the council intended to update its software using the patch, this ended up being overlooked during the outsourcing process.

The ICO investigation concluded that the council did not have sufficient processes in place to ensure its systems had been updated while changes to suppliers were made, and fined the organisation for contravening section 55A of the Data Protection Act 1998.

"Businesses and organisations must understand they need to do everything they can to keep people's personal information safe, and that includes being extra vigilant during periods of change or uncertainty," said ICO group enforcement manager Sally Anne Poole.



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Cisco is introducing its Catalyst 9000 switches, built from the ground up to target the demands of mobility, cloud, IoT and security.

Reinventing networking

(continued from page 1)

Meanwhile, day-to-day tasks such as configuration, provisioning and troubleshooting are automated using *SD*-*Access*. Cisco explains that this enables IT teams to move away from "tedious traditional processes" to "automating intent", making it possible to manage millions of devices in minutes. The company claims *SD*-*Access* "slashes" the time it takes to adapt the network, improves issue resolution from weeks and months to hours, and dramatically reduces security breach impact.

NASA, Royal Caribbean Cruises and Wipro are among 75 global enterprises and organisations that are conducting early field trials with the new solutions. Cisco says initial analysis with these customers as well as its own testing have shown *SD-Access* can reduce network provisioning time by 67 per cent, improve issue resolution by 80 per cent, cut security breach impact by 48 per cent, and lead to opex savings of 61 per cent.

"With this new approach, Cisco is changing the fundamental blueprint for networking with re-imagined hardware and the most advanced software," states the firm. "This shift from hardware-centric to software-driven networking will enable customers to experience a quantum leap in agility, productivity and performance."

Ocado open source software to streamline data centre architectures

Ocado Technology – a division of the online supermarket – has come up with a free and open source package designed to simplify data centre architectures for smart factories.

The *Kubermesh* package uses containerbased technology and the open source *Kubernetes* system to implement an onpremise private cloud architecture. Ocado says this then enables desktop computers to be easily configured to become nodes that support the compute or storage functionality typically delivered by a highperformance server in a data centre.

By distributing data centre functionality in a mesh network of nodes, it's claimed *Kubermesh* removes the need for a dedicated data centre and complex networking infrastructure. Ocado says this leads to significant energy savings and reduces the



Ocado is running Kubermesh at its highlyautomated customer fulfilment centre which includes thousands of robots roaming on top of a grid.

capex and opex associated with maintaining on-premise high-performance servers.

The company adds that the nodes are fault-tolerant, secure, flexible, and are

designed to process the vast amounts of real-time data generated in smart factories such as automated warehouses.

Chris Dabrowski, GM of infrastructure, operations and site reliability engineering at Ocado Technology, believes all this has the potential to revolutionise the way companies approach on-site data centre architectures.

He adds: "*Kubermesh* is an elegant and cost-efficient solution to running our highlyautomated customer fulfilment centres based on a distributed network of computing nodes spread around the warehouse rather than high-performance servers concentrated in one large data centre."

Ocado is planning to use the same container technology and *Kubernetes* system to build an upcoming massive multiplayer online game that teaches secondary school students the principles of AI.

Cambridge school installs passive optical LAN

Nokia has deployed its first passive optical LAN in the UK. The installation was carried out for an unnamed school in Cambridge by local systems integrator, FWD-IP.

Based on fibre optic infrastructure and GPON (gigabit passive optical network) technology, Nokia claims its passive optical LAN outperforms more traditional solutions in key areas of speed, cost and ease of use.

According to the company, the school chose its system over a traditional copper-

based Ethernet LAN upgrade because of its future-proof capabilities. Nokia adds that its infrastructure provides a secure, flexible and scalable network that allows the school to significantly improve the high-speed internet and educational services it provides.

With optical fibre cabling having virtually unlimited capacity, the firm claims its solution can be easily and cost-efficiently upgraded to 10G or 40G using

the same infrastructure. Nokia adds that it can provide 200 times longer coverage from a single central location than a copper-based LAN, eliminating the need for equipment closets on each floor or at every 100 meters.

The solution is capable of supporting all video, voice and data requirements over a single fibre optic cable, and has also proven to be effective in delivering a more eco-friendly solution that removes the need for additional network cabinets and IT switches.





THE WORLD ACCORDING TO... Richard Jonker, VP of SMB product line, Netgear

Using 10G to alleviate the network pressures of IoT connected devices

Businesses must embrace new technologies to remain agile in a competitive environment, and make the move to 10G connectivity to support their increasingly burdened networks.

The Internet of Things is making its mark throughout the enterprise landscape. Although IoT may be more familiar to larger organisations, it will eventually touch and permeate throughout the supply chain, of which SMBs are a main contributor.

This is an historic transition in which a rising network of physical objects communicating via the internet, talking to each other as well as with their external environments, will become commonplace. McKinsey has predicted that there will be 26 billion connected devices in use across the globe by 2020.

In the past, enterprises have been first in the race to adopt IoT as they could afford to build fast, robust networks to support the explosion of new information. Recent research from SMB Group highlighted that IoT was near or at the bottom of SMB investment lists for the next year. But awareness is growing and will drive the need for a higher network capacity to cope with additional traffic that will be required in both small and large organisations.

Ten gigabit copper, which allows 10G bandwidth over existing infrastructure, is becoming more affordable and encouraging widespread adoption. SMBs can now embrace these new innovations and deploy 10G to deliver reliable, affordable and easy-to-use connectivity,

and avoid potential network bottlenecks. Many SMBs have already deployed 10G copper solutions as they are starting to embrace IoT to help support growth in traffic generated by the virtualised servers, storage devices and data centres that power their infrastructures. Our research shows that 61 per cent of SMBs expect to use 10G to support their business network by the end of 2017. IoT will simply contribute to aggregate traffic profiles and spread wider adoption even further.

SMBs must act now to prevent their networks from collapsing under the new weight imposed by IoT. Having the right infrastructure in place can make the difference between uptime and downtime, lost opportunities and even the worstcase scenario – business failure. 10G can help to eliminate this risk.

Universal promotes new films via virtual network

Universal Pictures International has teamed up with Devicescape to build location-targeted promotional campaigns for film releases across the UK.

The company will also harness what Devicescape describes as the "rich" datasets generated by its *Engage* platform to develop a unique, actionable, and indepth understanding of the UK cinemagoer experience. Its says this will then enable the development of more effectively targeted marketing campaigns that have a broader reach.

Universal has already been working with Devicescape on a number of its UK releases, such as *Sing*, *Fast and Furious* 8, and *Despicable Me 3* which is due to open on 30 June. Click through rates for commercial campaigns so far delivered this year are said to have ranged between nine and 13 per cent.

Engage uses Devicescape's *Curated Virtual Network (CVN)* of shared public Wi-Fi to establish consumer presences at venues with extremely high footfall. The *CVN* is said to comprise more than 300 million access points worldwide which combine to form a single, software-based network.

Last year, Devicescape announced that its UK CVN had reached more than 500,000 locations since being launched in 2014. These include all of Starbucks' coffee shops, the Royal Festival Hall on London's South Bank, Waterloo train station, amongst others.



Universal has used Devicescape's Curated Virtual Network to deliver location-based promos for a number of its UK film releases such as Fast and Furious 8.

The firm adds that the network is 'crowd-sourced' as every AP is discovered by one of millions of Devicescapeenabled smartphones. It says the crowd continuously reports on the availability and quality of the Wi-Fi in the *CVN*, which means that it always knows what to use and when to trigger the delivery of location-aware, targeted engagement messages to consumer phones.

Remote village gets its first mobile internet connection

O2 has installed the first permanent 4G mobile mast in one of the UK's most remote villages. The deployment has brought mobile connectivity to a rural community that was completely cut off from all communications just over 18 months ago.

In the summer of 2015, Staylittle in Powys experienced a communications blackout that it cut off from the outside world for nearly two weeks. With the nearest town located around eight miles away, residents in the Welsh village relied on one working landline in the local post office and had to resort to expensive, patchy satellite-based home internet to get online.

In response, O2 installed a temporary 2G mobile which enabled voice calls and texts in Staylittle for the first time. Since then, the company has worked in collaboration with local authorities to install a permanent 4G mobile mast. This now provides full 3G and 4G coverage to the entire village.

"We pride ourselves on listening to customers, but we also listen to communities who have yet to feel part of a digitally connected Britain," claims O2 CTO Brendan O'Reilly. "Ever since we heard Staylittle's story in 2015, we've

After working "tirelessly" with local authorities, O2 says Staylittle now has its first permanent 4G mobile mast.

worked tirelessly to get its residents to this point – where they can make calls and access the internet and social media on the move just like most of the country."

Beyond Staylittle, O2 plans to bring high speed 4G mobile internet to a further 395 Welsh villages by the end of the year.

The mobile operator adds that it invests more than £2m every day to develop its network across the UK, and that its 4G footprint now covers 96.8 per cent of the population outdoors.

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Telstra acquires Company85

Telstra has acquired Company85 for an undisclosed amount. The Australian telecoms company claims the acquisition will "significantly enhance" its service offering for UK- and European-based business and government customers. Christopher Smith, Telstra's executive director of business technology services, says: "Company85's offering is strongly aligned to the existing suite of technology consulting services we offer our Australian customers." Established in 2010, Londonheadquartered Company85 provides data centre, workspace, cloud, security and network services to customers such as AstraZeneca, BBC, NHS, J.P. Morgan, Roche, amongst others. It currently has around 75 employees. 🔳

Brocade sells vADC assets to Pulse Secure

Pulse Secure has agreed to buy assets associated with Brocade's Virtual Application Delivery Controller (vADC) product family. Financial terms of the agreement have been withheld. The deal includes a leased R&D facility in Cambridge as well as associated customer support and maintenance contracts. Pulse Secure intends to hire certain Brocade employees associated with the vADC business to ensure continued support for customers. The transaction is expected to close by mid-July 2017, subject to customary conditions and prior to the finalisation of Broadcom's acquisition of Brocade announced last year . (see News, Nov 2016).

Streamwire and EACS merge

Streamwire has acquired EACS to form a new, enlarged managed services provider. The combined firm will have revenues of just under £20m and trade as EACS as a wholly owned subsidiary of Streamwire Group. It will have a focus on professional and managed services in core IT services such as cloud-based solutions, cyber security and high quality support. Streamwire co-founder Kevin Timms will become EACS' new CEO. Fellow co-founder Anne Stokes will remain on the board and lead the transition, but will also continue the development of wider business interests already under way. ■

Powerhouse deploys IIoT to monitor, manage and control electricity

Northern Ireland-based electricity aggregator Powerhouse Generation will use industrial IoT technology to remotely manage and control its clients' power assets.

Powerhouse aims to help large energy consumers in Ireland earn revenue by temporarily reducing or delaying their electricity demand on the grid. It is said to be the first demand-side electricity aggregator to work across both sides of the Irish border.

Under a two-year deal worth £200,000, SCADA network and telemetry supplier EMR Integrated Solutions is providing the firm with a custom-built, energy management system to run its core business processes. It is based on EMR's *Ignition* platform and includes the firm's *LiveLog* remote terminal units. These are connected to client-side power



Powerhouse MD Sam Thompson (shown left) says the new SCADA system will make the energy management process "completely transparent". Also pictured: EMR MD Mark Quinn (centre) and Sam Alexander, Powerhouse's technical director. PHOTO: PHIL SMYTH

generators and electricity control panels, and essentially act as energy monitoring devices. The units collect and dispatch real-time data via 3G/4G networks back to the centralised SCADA system at Powerhouse's network operations centre (NOC). EMR says its platform facilitates data driven decision-making, and staff can remotely control client participation on the grid as required.

Furthermore, with two NOC nodes connecting to EirGrid in Ireland and SONI in Northern Ireland, it's claimed Powerhouse can manage all its business in the region "easily and cost effectively".

The new system includes some unique features that helps Powerhouse differentiate itself from the competition. The firm's MD Sam Thompson says: "It not only gives us secure, granular visibility into our clients' energy usage, but uses the power of IIoT to centrally control load shedding or generator activation from our NOC, making the energy management process completely transparent to our customers."

Firms risk losing workers due to mobile black spots

One in four workers in the UK would move jobs as a result of poor mobile signals in the office, according to Arqiva.

In a survey of 1,000 workers, the communications infrastructure specialist found that 49 per cent have experienced poor mobile coverage such as dropped calls or a lack of signal within their office building. Of those, 72 per cent said this happens every week, while 25 per cent said it was something they faced daily.

John Lillistone, Arqiva's head of products for telecoms, says: "With 43 per cent of those we asked saying that poor mobile coverage does or would significantly impact their ability to do their job, and a quarter claiming it already causes them extreme levels of stress and frustration,



indoor coverage is clearly not an issue that companies can afford to ignore."

He adds that younger, 'mobile first' workers appear particularly intolerant of the growing problem – amongst generations X and Y, the survey revealed that the willingness to leave their job over poor coverage rose to 35 per cent.

When asked who they think is

accountable for mobile coverage issues, 90 per cent cited their mobile network. However, responsibility was also distributed amongst a number of other parties, including the device itself (70 per cent), the IT manager (42 per cent) and the building designer (41 per cent).

Lillistone points out that it is in actual fact usually the building itself that lies at the root cause of poor indoor mobile coverage: "You'd be surprised by the extent to which modern building materials, such as insulation and double glazing, can hamper signal."

He says that as the UK battles to become a 5G leader, networks, architects, builders and employers all have to work together to understand their role in finding a solution for current indoor coverage "woes."

ITS aims to boost cyber security awareness

Managed service provider IT Specialists (ITS) has developed a kit to help businesses ensure that their cyber security awareness and planning is effective.

According to the firm, 40 per cent of organisations that experienced a data breach in 2016 failed a compliance audit, and only 13 per cent felt that their data and network were safe from insider threats.

ITS' cyber security awareness kit includes a white paper which explains why a unified approach to preventing IT security breaches is essential for ensuring that all of a business' technology is visible and actively protected. It also offers advice on the top three ways to prepare for any security breach, information on why education is key, and highlights the real cost of personnel data theft.

"Most cyber security breaches are caused by human error, so protecting your business isn't up to the IT team alone," explains Paul Barber, integration manager at ITS. "Everyone in your business needs to do

their part and knowledge is the first step in protecting any organisation from breaches." Barber reckons the kit provides businesses with everything that they should know, and also warns how businesses and individuals could still be vulnerable, despite thinking that their cyber security strategy is top notch.

It also includes an IT security checklist and glossary of terms to help raise awareness of educating employees on cyber security best practices.



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As Cloud Dominates, On-premise Still Lives

Despite the broad range of benefits of deploying unified communications in the cloud, which is growing in popularity by the day, the demand for onpremise solutions is still very much alive.

While the Cloud offers a readily available and flexible solution without the need of a significant upfront investment, it is still not as customisable compared to on-premise solutions. In a sense, Cloud is like renting as opposed to buying; with the Cloud there is no need to worry about maintenance, and if anything goes wrong it's in the hands of the Cloud provider. Contrarily, in the case of on-premise deployment, maintenance and upkeep is in the hands of the user.

There is no denying that cloud computing is progressively making an impact on just about all businesses in one way or another. Spreading like wildfire, the Cloud has taken the world by storm, growing at an astounding 25% in 2016! However, while it offers an assembly of benefits to its users, it can be argued that the Cloud is more geared towards startups and small to medium sized firms.



Safety First

Many businesses prefer to take the 'If you want it done right, do it yourself' approach. When it comes to data security many users remain concerned about the safety of their data in the Cloud, especially in terms of sensitive information. Lawyers, accountants and medical professionals may have this concern regarding their clients' and patients' information and in light of several infamous hacking scandals, turn to on-premises solutions. While there is a flourishing market for new technologies, like that of the Cloud, there will always be skepticism. Many users do remain doubtful regarding the level of security offered by Cloud providers and prefer to retain control over their unified communications systems and any sensitive or valuable data their CRM systems may hold.

Got Internet?

If you use Google to check if you have an internet connection more than you use Google to Google, then you may favour an on-premise solution. In the case where Internet connectivity may be unreliable, onpremise deployment becomes a more sensible solution than cloud deployment. By this way, users with unreliable connectivity can retain control of their PBX by exploiting local backup routes (traditional lines).

What's more, because voice traffic over the data line is reduced to exchange data with the VoIP provider, in the case of businesses with a large number of extensions, an on-premise solution usually guarantees better efficiency.

3CX Makes On-Premise Affordable to All

It's commonly believed that on-premise solutions are more costly than deploying in the Cloud. While larger businesses tend to seek out on-premise solutions that require a substantial initial investment, 3CX has innovated suitable on-premise alternatives for startups and SMEs.

With 3CX, smaller businesses seeking to deploy onpremise solutions can optimise their PBX to run in VM environments on their existing servers. Alternatively, those that wish to deploy on a separate machine can still do so without investing in expensive and bulky servers by deploying on a MiniPC appliance instead. There are a range of reliable and affordable MiniPCs on the market from Intel, Zotac, Shuttle and Gigabyte, which can be purchased for as little as 160 pounds.

Different Strokes for Different Folks

It's important for businesses to evaluate the pros and cons of both on-premise and cloud solutions to determine which will cater to their needs best. Even though most businesses rely on the Cloud for something or another, many will find that it is the large enterprises that prominently opt for on-premise solutions.



While large enterprises generally lead market trends, it is the startups and SMEs dominating and determining the significant growth of the cloud market in recent years. If you are considering a cloud solution, bare in mind that larger companies requiring a high number of extensions should look into the possibility of a hybrid solution instead. Choosing a PBX such as 3CX, which ensures a secure bridge between an onpremise PBX and a cloud system, will allow a business to benefit from the best of both.



First fall in use of cloud services per enterprise

The average amount of cloud services used per enterprise fell from 1,071 in the first quarter of 2017 to 1,053 in the second, according to Netskope's latest report.

The cloud security specialist says this is the first decline since it began tracking cloud services per enterprise, and says it may be attributable to the saturation of service usage across organisations.

The report reveals that for the first time the manufacturing industry leads with 1,222 services in use during Q2 2017. That's the highest average number for

Category	# Per Enterprise	Enterprise- ready
HR	98	96 %
Marketing	87	97 %
Collaboration	71	87 %
Finance/Accounting	63	96 %
CRM	43	94 %
Software development	40	96 %
Productivity	38	95 %
Social	29	91 %
Cloud storage	26	73%
IT service/ application management	25	98 %

Within cloud service categories, HR services took the lead with an average of 98.

SOURCE: NETSKOPE CLOUD REPORT, JUNE 201

the period. The retail, restaurants and hospitality sector fell to second place with 1,131. This was followed by: financial services, banking and insurance at 1,039; healthcare and life sciences at 1,014; and technology and IT services at 821.

Netskope's report also investigated for the first time collaboration services as a separate category for cloud data loss prevention (DLP) policy violations. It found that violations in services such as *Slack* and *HipChat* are on the rise, accounting for nearly 10 per cent of total violations during the quarter.

The firm warns these services have soared in popularity as methods of sharing and downloading data, emphasising the need for enterprises to put policies in place to ensure such data remain safe and secure.

Webmail remained the leader in DLP violations during the quarter with 43.3 per cent of infringements. Cloud storage came second with 30.6 per cent, and 'other' cloud service categories combined to make up 16.3 per cent.

Uploads make up the majority of violations by activity at 65 per cent, followed by send at 17.5 per cent, download at 16.2 per cent, and other at 1.3 per cent.

Netskope bases its quarterly *Cloud Reports* on aggregated, anonymised data collected from millions of worldwide users on its *Active Platform*. The company says this has been designed to provide visibility, control and DLP for any cloud service.



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VIEW FROM THE TOP Rahiel Nasir, editorial director, Networking+

The Microsoft Cloud: lured, lockedin and loaded up with a price rise

Despite extolling the virtues of cloud for many years now, it wasn't until 2016 that we decided to migrate after our 10-year-old in-house server finally gave up the ghost.

Fast forward 12 months and our publisher has just been hit with a renewal notice for *Microsoft 365* services with prices jacked up by 21 per cent. No explanation.

A call to the software giant's customer services centre proved even more infuriating. The sales department could not account for the rise and suggested we speak to someone in retention. Far from offering any incentives to retain Microsoft's services, the retention agent was also unable to offer any explanation for the price hike. He passed us back to a sales agent who asked if we wanted to speak to someone about cancelling the account.

In short, none of Microsoft's customer facing team were able to give us an official explanation for the increased bill, and there was no one we could speak to about it.

Last year, Microsoft did warn it would be raising its prices at the start of 2017 after the pound fell against the dollar following the Brexit vote. In a blog dated 21 October, the company said this was necessary to "harmonise" prices within the EU/EFTA region. It stated that sterling prices for most enterprise cloud prices will increase by 22 per cent to realign close to euro levels. The blog ended with: "If you have any questions, please speak to your Microsoft account manager or Licensing Solution Provider." Good luck with that.

So where does that leave us? Microsoft certainly did not appear keen to retain our business and, unlike many other suppliers we have come across, did not offer anything to sweeten the bitter pill of a price rise.

Of course, we could just switch to an alternative cloud services provider. But that is perhaps another headache for another time. And while we are a small outfit with less than 10 seats, I pity larger organisations with hundreds or thousands of staff that have been, or are about to be, hit with massive bills.

For now, it looks like Microsoft has got us all well and truly trapped in its cloud. Let's see what happens next year.

"Entropy-as-as-Service" launch

Whitewood has introduced Entropy-as-as-Service for creating cryptographic keys which it claims are impossible to guess.

Based in Massachusetts, Whitewood is a developer of crypto-security solutions based on advanced quantum technology. The firm says its new cloud-based *netRandom Free* service delivers "pure quantum entropy" – the foundation of randomness – to generate truly random numbers for creating cryptographic keys that cannot be cracked.

The service is now available for *Windows* running on servers, desktops and laptops. At its heart is the *Whitewood Entropy Engine* which is the result of a decade-long research programme by the quantum security team at Los Alamos National Laboratory.

Whitewood says the use of crypto tools such as encryption have become ubiquitous in modern IT environments and play a critical role in GDPR as well as rapidly emerging technologies such as Blockchain and Bitcoin. The firm claims its engine is designed to strengthen cryptographic security systems in traditional data centres, virtual cloud environments and embedded systems, such as the IoT, where random numbers in the form of keys underpin the level of trust and security.

netRandom Free has been developed to deliver on-demand, quantum entropy from a cloud-based server over standard IP networks. Whitewood says it continuously re-seeds existing random number generators within *Windows* and *Linux*based instances and devices.

Richard Moulds, the company's general manager, says: "Software-based systems are fundamentally predictable and rely on capturing signals or events from the physical world, ranging from mouse movements to hard drive activity and network traffic to increase the level of randomness."

As a result, he believes quantum entropy is the only true source of randomness.

Cardiff to host world's first cloudbased call recording service

TeleWare has selected Next Generation Data's (NGD) Tier 3 facility in Cardiff to host what's claimed to be the world's first cloud-based call recording service.

According to TeleWare, its *Cloud Call Recording* service enables businesses to record both inbound and outbound conversations wherever workers are. Users simply dial an entry number and follow voice prompts to activate recording to enable calls to be stored.

TeleWare has migrated all its fixedline call recording solutions onto the new platform which is based on *Microsoft Azure*. It considered a number of London-based data centre options but says it chose NGD based on its high level of security, low-cost resilient infrastructure, and multiple high speed connectivity options, including its



TeleWare says NGD's hybrid cloud infrastructure is already enabling it to store more than 35,000 minutes of voice call recordings per day.

dedicated *Cloud Gateway* connections into *Microsoft ExpressRoute*.

The company has installed a number of racks at NGD in support of its service. It says NGD's high-speed, low-latency hybrid infrastructure is already enabling the new platform to securely store more than 35,000 minutes of voice call recordings per day in the public cloud.



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Banking on IT

While all networks should be highly secure and resilient, it's even more crucial to have robust infrastructure in the financial sector where it is often said that time is money.

Building society constructs modular data centre

Since being formed in 1850, Cumberland Building Society (CBS) has grown to become one of Britain's top ten building societies, with 34 branches throughout Cumbria, Dumfriesshire, North Lancashire and Northumberland.

In late 2012, CBS planned to move to a new head office. This provided an opportunity for it to upgrade IT infrastructure and procure a data centre solution that could also improve levels of reliability and availability in a cost-efficient manner.

The society had already worked with APT (Advanced Power Technology) on an earlier project to upgrade and maintain its power protection system. It therefore contacted the specialist, initially to ask for help to relocate its UPS and generator to the new HQ site



five miles away. But then APT started asking questions about the full scope of the move, the IT load and how the society proposed to deliver a new server room.

Working in conjunction with Schneider Electric, APT designed a scalable, modular, pay-as-you-grow data centre for CBS' new facility. This approach provided the benefit of enabling infrastructure to be right-sized according to the IT load; according to Schneider, a major cause of energy waste in data centres is due to over-sized infrastructure, often to accommodate a future growth requirement which is never realised.

The new facility incorporates the InfraStruxure modular system from Schneider subsidiary APC. This supports CBS' full IT infrastructure, including customer banking services, internal networking and an IP phone system.

InfraStruxure brings together pretested and pre-designed components, with integrated power protection and distribution, racks, cooling, physical security and management software.

CBS' new facility also incorporates APC's hot aisle containment solution (HACS) together with InRow precision cooling units. It's claimed a key advantage of HACS is that it enables high density loads to be accommodated, helping to maximise utilisation where



can avoid the need and cost for a dedicated server room with a raised floor.



Accountancy firm earns fat dividends from thin clients

Hallidays is a firm of accountants and business advisors that supports numerous clients in the Stockport and Greater Manchester area. Founded in 1843, it provides a broad range of services covering not only accountancy and tax advice, but business growth, HR, recruitment, payroll, wealth management and corporate finance. Furthermore, rather than just act as an internal IT department and breakfix problem solver, Hallidays' IT team provides an IT support and consultancy service for clients.

It's claimed that the revenue generated by the eight-strong team has grown 250 per cent since 2014. This has been achieved as the firm has shifted its entire IT infrastructure and implemented server and desktop virtualisation along with IGEL's UD2 and multimedia UD3 thin client terminals to significantly enhance organisational efficiency and boost team productivity.

At the end of 2012, Hallidays standardised on VMware vSphere for its server backend solution and Citrix's VDI-in-a-Box for the desktop. As a result, the business cut its physical estate from 11 to three servers.

At the same time, a private cloud was created allowing Hallidays' 80 staff to access files and key applications such as Microsoft Office 365, Digita accounting software, and an in-house developed practice management suite, Practice DNA.

The UD2 and UD3 terminals were installed in a phased roll out, with the final batch purchased earlier this year to complete the project company-wide. To date, Hallidays has invested more than £175,000 in virtualisation, cloud infrastructure, servers, storage, networking and IGEL terminals.

IGEL says it was selected over competitive companies because its Universal Management Suite (UMS) facilitates easy deployment. Matthew Jones, Hallidays' IT manager, says: "You plug a device in, it appears in the UMS, policies are then applied and once rebooted, that's it. It takes five minutes from no configuration at all to full configuration and, compared to a traditional PC, we're saving about one day a week on desktop administration."

In addition, IGEL says its terminals are cost effective, consuming a fifth of the power and costing approximately half the amount of a traditional PC. Jones says: "We've set policies on the thin clients so they power on when someone connects into their virtual desktop and power down when they log off - that's quite a big electricity saving over the course of a year.'

available space is constrained. In addition, it Fiscal gains in The Bunker

Established in 2002, fintech company Fiscal Technologies creates software that prevents money from mistakenly or fraudulently leaving an organisation. With offices in the UK and the US, the firm says its forensic solutions analyse financial transactions across the entire purchase-to-pay process, finding anomalies, errors, duplicates and identifying potential duplicity.

Some of Fiscal's customers require contractual certainty that their data do not come into contact with any organisation that has any kind of relationship with the US or American organisations due to data sovereignty requirements. The company had kept US and UK customers' data stored in the same facility in the UK, but subsequently needed to split this because of the segregation requirement.

Whilst Fiscal partnered with a US company for its American customers, it found that the previous UK provider (which had been in place for three years) did not have adequate measures in place to guarantee adherence to its clients' data sovereignty needs. The firm therefore needed a hosting and infrastructure provider that not only met all the latest security accreditations, but also had security embedded in everything it did. In particular, adherence to the ISO 27001 security standard – a comprehensive, technology-neutral specification that deploys a risk-based approach going across all sections of an organisation - was key.

After a wide-ranging procurement process, Fiscal found that The Bunker had a significant amount of experience working in the fintech sector, and that its security provision was more comprehensive than any other it had encountered before, covering all the necessary accreditations including ISO 27001.

The solutions that The Bunker offers Fiscal at its ultra-secure military grade data centre include IaaS, multi-homed internet bandwidth, together with Microsoft and Linux services and support.

It has implemented a virtual environment for the firm with SQL Server databases, load balanced firewalls, and active directory domain controllers. Fiscal's CTO Howard Durdle says: "In the case of any kind of system failures, we can migrate virtually across to other parts of the infrastructure, massively reducing any potential for downtime."

He continues by saying that for many customers, having the level of security provided by The Bunker was a prerequisite to making deals. "For example, for a large defence contractor who placed huge value on security and on their data not touching the US. The Bunker was a vital element to passing a lengthy procurement process and securing a deal."





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Among some of the features to look for in an SD-WAN solution is embedded analysis and reporting that delivers single-pane-of-glass visibility into the network's entire health.

A new view of the network

There is now much talk about SD-WAN, but does it really represent the future of enterprise networking as some industry experts are suggesting? RAHIEL NASIR finds out.

The software defined wide area network has emerged as one of the "hottest" topics in the WAN industry, according to analysts at International Data Corporation (IDC). They believe the technology will play a key role in network evolution as organisations try to cope with the accelerating requirements resulting from digital transformation.

In a report published in June, IDC says the SD-WAN market represents a high growth opportunity for the many startups, established vendors and service providers that are now "jumping on the bandwagon". It forecasts revenues for such firms to grow at an average rate of 92 per cent per year to reach \$2.1bn (around £1.6bn) across the EMEA region by 2021.

Citing estimates from Gartner, Teneo says there are 4,000 SD-WAN deployments worldwide and that one third of global businesses will be using the technology by 2020. As part of its own research published in June, the company polled 200 UK organisations and found that 51 per cent plan to use SD-WAN to gain visibility of local network traffic and application performance issues.

"There's been so much focus on strategic digital transformations in recent years that we're in danger of forgetting the importance of customer responsiveness to companies' regional and branch-level lines of business," says Teneo CTO Marc Sollars. "SD-WAN's ability to show what's going on at grassroots gives UK CIOs a realistic way to 'think global and act local' with their network infrastructures, especially as their IT resources are likely to be tightly constrained for the foreseeable future."

So does SD-WAN represent the future of enterprise networking? Chris Gilmour, pre-sales manager at Axians Networks UK, says networks have not evolved as rapidly as what's running over them. "You tend to find that we are using MPLS technologies that have been around for 10 plus years, and they're mainly network centric technologies. SD-WAN is about isolating and separating traffic out rather than handling traffic in a different way."

According to Gilmour, the idea of the SD-WAN was mainly driven by open networking groups who are heavily

enterprise focused. He explains that they wanted to try and bring the flexibility of SDN within a data centre to the network, and to also make it transport-independent.

"Basically, if you're a service provider you're very interested in how the network operates. But if you're an enterprise, the network could be wet string with two cans on the end of it. Enterprises don't care how their applications are delivered as long as they perform the way they want them to.

"That's where SD-WAN comes in. It is application-centric and enterprises care about applications, they don't care about the network. So the service providers are now having to play catch up because a lot of business customers are asking them 'what SD-WAN solutions have you got?'"

SD-WAN comprises many existing technologies such as real-time analytics, policy-based routing, zero-touch provisioning, centralised orchestration, amongst others. WAN optimisation and acceleration also play a part, which is why it is not surprising to find companies that have specialised in these areas – such as FatPipe, Riverbed Technology, Silver Peak, Talari Networks, *et al* – now occupying the SD-WAN vanguard.

With business now facing different demands in a rapidly changing marketplace, SD-WAN offers a better approach to networking across the global enterprise, according to Steve Foster, senior solutions engineering manager, Riverbed Technology. He says that as more businesses adopt cloud computing and services, there is a need for an endto-end software-defined connectivity infrastructure for the entire enterprise with virtualised functionality that can be orchestrated across cloud networks, remote LANs and hybrid WANs.

"The router-heavy, hard-coded, complex networks of the past simply cannot easily support digital services, the mobility of the masses, or the rapid rise of data in today's hyper-complex IT environments," says Foster.

Silver Peak supports this view. It says that as businesses migrate applications and infrastructure to the cloud, legacy WAN architectures are proving "inefficient and ineffective" in connecting users to applications. Nick Applegarth, the company's VP, says: "While reliable when applications were hosted in the data centre, legacy architectures are costly and complex to manage. They impair application performance due to the inefficiencies of consuming WAN bandwidth to backhaul all cloud destined traffic through the data centre."

Atchison Frazer, worldwide head of marketing at Talari Networks, agrees when he says public cloud computing rendered traditional WAN architectures "obsolete", while digital business transformation has increased the sense of urgency. "Enterprise WANs are mired in a complexity and cost vortex. SD-WANs drive cost-efficiencies and agile methods in contrast to brittle, slow, fragile and static networks. They also improve performance for all apps, including ones that are cloud-resident and cloud-centric, and offer a better managed WAN run model with opex over capex."

Ultimately perhaps, SD-WAN is about creating optimised enterprise networks that offer increased agility and simplicity. Foster says it provides improved and secure internet connectivity that puts the control back with the network administrator, and provides the ability to identify and address service issues. Applegarth adds that another big benefit of building an SD-WAN is that enterprises can transition at their own pace in alignment with the changing requirements of their businesses.

Making the transition

The idea of software defined networks has been around for a while now, so why not simply just talk about SDN rather SD-WANs? Anders Hellman, principal member of technical staff, SDN and IP products, at Verizon EMEA, says the most important differentiator is the separation of the control plane from the forwarding plane.

"The control plane can steer the traffic based on policies, defining what applications, or application groups should use which preferred path through the network.

"This enables what is one of the major drivers for SD-WAN – more consistent and faster central control for steering of the traffic paths in the network from central controllers, whereas the underlying network just has to forward the traffic."

As a result, Hellman says SD-WAN can be transport agnostic and can be run as an overlay across, for example, public and private IP, LTE, etc.

Foster points out that although it may seem like there's little difference between SDN and SD-WAN, the latter needs to tackle a different set of challenges. These include connecting an enterprise's data centres, branches and remote workers on a global basis with SaaS and hybrid cloud applications using a combination of MPLS and internet services. He says: "SD-WAN architecture automates the process of joining the networks plus selecting which service to use depending on business requirements so that both private WAN and public internet can be utilised efficiently."

He goes on to state that SD-WAN offers cost advantages over traditional networking. These include a reduced hardware footprint when implementing network functions on consolidated appliance platforms, plus holistic and centrally controlled management of low cost internet services, resulting in reduced or frozen investment in expensive MPLS.

Frazer points out that SD-WAN represents the best way to transform the edge enterprise network into the cloudready age in which more data and apps run in a hybrid-cloud fashion. Gilmour expands on this by saying that the intelligence is really on the edge with all the network configurations sent out from a central point. He says this approach then enables netadmins to put in a new site very simply and quickly. They have the ability to control how individual sites react and how individual applications are handled across that network.

"SD-WAN gives you site-by-site visibility of what applications are going over your network, how much of your available bandwidth they take, and also tells you about the condition of the individual parts. All of those things are then pulled together to allow you to direct individual applications down specific parts of the network to optimise the performance."

SD-WAN

So how should netadmins go about making the switch to an SD-WAN? Or perhaps the question should be, when should they move especially, as the old adage goes, if it ain't broke why fix it?

Aside from SD-WAN's new functionalities, Axians' Gilmour says there are some basic features that will be of benefit to many enterprises today. And he adds that a lot of that is about harnessing the bandwidth they have available for their sites.

"We're working with a customer who has a number of DSL links into each of their locations. They have a link dedicated to data, and another one just for voice which is used a lot and is sized based on the number of SIP links needed. While all the phones aren't in use at the same time, the data link is being absolutely hammered. So the customer

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may have to upgrade the data links and wants to try and keep the traffic separate to allow for the fact that it is already experiencing congestion.

"But by adding SD-WAN, the customer could pool those links together. The downtime it has for the voice links will allow extra flex for the data connectivity. So it would end up with a lot of available pooled bandwidth today without changing anything in the infrastructure at all.'

FatPipe Networks – which claims to have invented the concept of SD-WAN and hybrid WANs - warns enterprises to make sure that any SD-WAN solution they choose should be around for the lifecycle of the product. Matt Gwyther, the company's technical marketing manager, says: "With the large number of SD-WAN companies right now, there are going to be some that do not make it and some that are acquired only to have their products eliminated. The enterprise therefore needs to be confident that the solution provider is not simply a startup and has the longevity and proven realworld experience to support them.'

Riverbed's advice for enterprises implementing an SD-WAN solution is to look for a cloud grade service. "Today, the landscape for housing and delivering business applications is incredibly diverse, spanning traditional data centres, cloud environments, remote branches and mobile users," says Foster. "Consequently, your SD-WAN solution must expand to handle automated connectivity and orchestration across hybrid WANs, cloud networks and remote branch LANs/ WLANs. This expansion is critical to achieving significant gains in agility and operational efficiency.

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Foster continues by saying many SD-WAN solutions offer basic monitoring while modern hybrid networks require far more depth. As a result, he says users have to make sure that they're equipped with advanced application and transaction insight in heavilyencrypted environments, comprehensive end-user experience monitoring, and deep network intelligence to provide total visibility into application performance and fast resolution of problems.

Optimisation is another area to watch for: "Point-product approaches to combining WAN optimisation and SD-WAN network services compromise control over application performance as packets move between WANOP and SD-WAN functions," says Foster. "Look for a single solution that unites these technologies across hybrid WANs, cloud (SaaS, IaaS, PaaS) networks and branch LANs/WLANs, plus one that provides automated and dynamic path selection."

For Silver Peak, the first thing you need to decide when migrating to an SD-WAN is whether to employ physical appliances or virtual ones running in all branch locations that will be part of the network. In either event, Applegarth says the solution should offer encrypted tunnels and provide high levels of performance, security and segmentation from edge-to-edge.

Moreover, he says netadmins should carefully evaluate how robust each solution's path conditioning capabilities are to monitor and manage packet loss, out-of-order packets, latency, jitter and throughput to ensure that applications perform in alignment with SLA thresholds. This is important, especially when using internet connections and even MPLS, because path conditioning reconstructs lost packets or out-of-order packets in transit without incurring the overhead or latency of retransmitting them."

Masergy launched a managed SD-WAN service last September. Paul A. Ruelas, the company's director of product management, says that if enterprises want the highest performance SD-WAN environments, they should seek out solutions that offer forward error correction and application-based routing. FatPipe's Gwyther adds a caveat here by saying that many providers simply duplicate traffic across multiple links which creates bandwidth issues at the data centre. "Enterprises should be mindful of what packet duplication/forward error correction techniques the SD-WAN product is offering to see if it fits in their network requirements.

Network visibility is one of SD-WAN's defining characteristics and certainly crucial for Verizon. Earlier this year. it announced a partnership with digital infrastructure management software specialist SevOne to deliver added visibility into SDN services. With the new capabilities, Verizon claims its enterprise clients benefit from a singular view that spans multivendor technology without the burden of managing disparate monitoring systems. By using an integrated web interface, it says clients gain an end-to-end view of services spanning the physical and virtual network.

As providers of managed SD-WAN platforms, both Masergy and Verizon believe outsourcing is the solution network managers should go for if they want to mitigate the risks and expenses associated with deploying any new technology on their own. Ruelas says: "Use the expertise of a proven service provider whose offering doesn't lock you into a single hardware or technology approach which can prohibit interoperability with your business' broader WAN platform. The right service provider will do the heavy lifting for you to ensure rapid deployment, simplified change management, and realtime analytics and service control. You'll

also be able to eliminate many of the high capex costs associated with proprietary network appliances."

Verizon adds to this by saying that along with the many benefits of hybrid WAN comes additional complexity to policies and templates that administer security. Hellman says: "While organisations want to adopt hybrid platforms, many may not have staff with the expertise needed to manage the risks that come with that added complexity. Using a managed service can support a business' switch to SD-WAN and help them move forward confidently, as many of the more complex requirements are taken care of by the organisation providing the service."

A 'fit and forget' network?

Hellman was not the only one to express concerns about skills shortages. For instance, Riverbed's Foster says developing new skills to ensure that groups such as applications, servers, security, storage and networking are collaborating and no longer working in 'silos' is crucial. "A great contributor to removing the barriers of collaboration is having a common management and monitoring platform that can be used by all teams, providing a single source of truth regardless of their individual skill set."

As a precursor to this, Foster says ensuring that IT staff are completely on board with every aspect of moving to a virtualised and centrally orchestrated environment is critical to success. "They must have a full understanding of how the existing application delivery works, and it is important to draw on that experience after the transition to ensure continued consistent user experience. Members of staff running this part of the operation are as important as the management in this exercise."

Teneo's research supports this approach. It found that UK CIOs still face serious resourcing and skills gaps as they try to reconcile their global and local network infrastructure needs. Twenty nine per cent of its survey respondents stated that a lack of team resources and skills to monitor local networks was one of their top three networking challenges.

"Networks are so complicated now that CIOs need a practical way to deal with branch-level application issues alongside global needs," says Sollars. "The trouble is, they don't have the resources for locally-based troubleshooting or running regional networking teams to ensure high-performing applications 24/7."

The other challenges identified by CIOs in Teneo's study included high management costs for divisional and branch IT networks (40 per cent) and high network upgrade costs in general (35 per cent).

Clearly, SD-WAN is not a 'fit-and-forget' networking solution, and despite all its potential, hurdles remain.

Foster points out another key challenge for IT teams is managing the multiple WAN providers that results in deploying a hybrid SD-WAN. "SD-WAN will still require traditional WAN services, be it MPLS, internet, DSL, etc. So network administrators will need to be managing those contracts and services whilst creating and managing their own SD-WAN to bring them all together. At the same time, they will have to interpret the different business needs and correlate this with the connections needed from the networks."

In the past, Foster says a network manager had to work with services such as firewalls, VPNs, WAN optimisation and the wealth of complex configurations that came with them. He reckons that's where solutions like Riverbed's *SteelConnect* comes in, as it replaces the pains of WAN management complexity with cloud-era IT agility and single-click creation of multi-service SD-WAN capabilities in the cloud.

Planning for the unplannable

Given the fact that SD-WANs are multiservice environments, Masergy reiterates that companies should ensure they do not choose a provider that locks them into working with a particular vendor, thereby ruling out mixing and matching solutions. "Seamless interoperability with other vendors' circuits and WANs, and the ability to connect any location over any transport method, are fundamental functions of a truly flexible and risk-free SD-WAN," says Ruelas. Talari's Frazer also warns against vendor lock-in: "For example, some vendors require specific carriers when they move you from MPLS, and some only offer traditional WAN-optimisation, but no real softwaredefined, controller-based, platforms.

"Furthermore, unless your vendor measures performance and routes dynamically at the packet-by-packet level in real time (milliseconds) as opposed to the session-steering of bulk packets with round-trip measurement only, attempting to run SD-WANs for real-time latencysensitive apps such as VoIP or videoconferencing will be severely challenged."

Ruelas says it's also important to realise that in most cases, SD-WAN isn't a complete MPLS replacement in favour of "besteffort" broadband. He warns that upload speeds may be constrained when using SD-WAN purely over broadband internet. Gwyther adds to this by suggesting that there is a narrative that multiple broadband connections are just as good as MPLS. "While in some situations this is true, in many it is not. Enterprises need to be mindful in selecting their access, especially when VoIP or other real-time applications like video-conferencing are the main network applications."

Ultimately though, all this is just the type of fine detail you would expect when deploying any type of complex enterprise network, and the arguments in favour of migrating towards an SD-WAN environment remain compelling. Axians' Gilmour sums it up neatly when he says: "SD-WAN offers benefits for today as well as for the future, where organisations are able to plan for the unplannable and look at designing the network for things they don't even know they need as yet."



off-the-shelf: security appliances

Keep your guard up

Cyber attacks could come from any part of the network, which is why you need more than just a basic solution.

Allot Communications reckons its Secure Service Gateway (SSG) is the first appliance of its kind to combine application-based visibility and control with web security and DDoS protection.

According to the firm, its platform goes further than traditional WAN optimisation controllers and secure web gateway solutions, utilising real-time applicationbased traffic monitoring and analytics to deliver granular application level visibility and ensure higher QoE for users.

It's claimed the gateway features "powerful" web security which detects malware, phishing and other web threats. Allot says "robust" protection combines application-based traffic management alongside a behavioural-based DDoS mitigation engine to provide rapid anomaly detection and swift attack mitigation before they are able to disrupt network services and availability.

The company adds that the *SSG* has flexible policy tools to enable network managers to align IT resources with business priorities, reduce the enterprise cyber attack surface, and increase productivity.

It goes on to claim that the gateway enables mid- to large-sized enterprises to enhance productivity and protect their networks with high port density – the Intel-based platform scales from 1,000 to 100,000 users in a single appliance.

Other features include flexible redundancy configurations plus passive bypass with automatic port failover to maximise uptime and availability.

Two models are available to meet enterprise requirements of up to 30Gbps of capacity: the *SSG600* and high-end *SSG800 (pictured)*.

ComNet Europe's latest generation of self-managed switches now have the capability to physically disconnect a port

capability to physically disconnect a port if unauthorised access is detected. According to US-based ComNet, an organisation's security network, with its accessible outside connection, presents an "easy way" to bring down the network. It says cyber security is therefore not something confined to just a security IP



network, as any network can be infiltrated. The new *ComNet Port Guardian* will disconnect an IP addressable device on the edge of the network when access from an unknown source is attempted. An SNMP notification is then sent to the head end and the affected port is physically locked out, preventing entry.

ComNet says the network administrator can reopen the port when the threat is eliminated. It adds that the feature also thwarts access through spoofing by disconnecting the port as soon as an

The *GigaVUE-HC3* is the first highperformance appliance to enable pervasive visibility and security intelligence at scale in 10Gb, 40Gb and 100Gb networks, according to **Gigamon**.

The vendor says the appliance extends its *Visibility Platform* and *GigaSMART* technologies with higher compute and throughput performance to effectively manage, secure and analyse large volumes of data in transit.

The *GigaVUE-HC3* is said to feature "market-leading" visibility node capacity which provides a total of 800Gbps of *GigaSMART* traffic intelligence per node, scaling to 25Tbps in clustered configurations. It offers up to 3.2Tbps of

Savvius says its new *Spotlight* application provides visibility into the specific information needed to significantly reduce MTTR of network issues.

Available as an option on the firm's *Omnipliance T300, M200* and *C100* devices, *Spotlight* is also available as what Savvius describes as a "high-performance" standalone 1U appliance (*pictured below*).

According to the firm, up until now network monitoring and management products were "limited" to presenting summary information based either on aggregated packet-level metrics or on onesided flow data that were missing critical measurements such as quality and latency.

It says *Spotlight* takes advantage of "dramatic" increases in compute capability now available in the *Omnipliances* range to apply packet-based expert analysis to every single flow in the monitored traffic, even when hundreds of thousands of flows are being created each second.

The new application has been designed to specifically identify the poorest-performing aspects of a network by assembling two-way flows and

Stormshield has introduced two new devices to secure Wi-Fi connections for small businesses to open their wireless networks to their customers, employees or partners while maintaining full control.

Launched as part of its Network Security Wi-Fi product range, the company says its new appliances provide a single platform to connect as well as protect all IoT and mobile devices.

There are two models available: the *SN160W* secures Wi-Fi connections for 10 referred users; while the *SN210W* (*pictured*) supports 20 referred users. Stormshield says each is easily deployed and guarantees implementation of a secure environment in "just a few clicks".

The company further claims that a comprehensive set of features, once reserved only for dedicated solutions, make it easy to manage resource access accounts for individuals outside the organisation. These include *Temporary Account Mode*, a simplified interface which creates temporary user accounts. Since the password is generated interruption is sensed.

Port Guardian is being added to the newest generation of the company's self-managed switches, including the *CNGE2+2SMS* and *CNGE4+2SMS*.

The feature will also be available on the new ComNet USA-made managed switch line.



processing per node that scales to more than 100Tbps per cluster.

Among its uses cases, Gigamon says the appliance can optimise security by active remediation and identification of malware activity for both on-premise and cloud monitoring.

It also claims that the new platform enables users to minimise traffic overload, extract metadata from traffic, and provide more effective options to deploy both inline and out-of-band security tools.



evaluating each one for TCP quality, VoIP quality, application latency, network latency, and more. It allows IT teams to intuitively map and navigate the network, enabling them to zoom in on specific segments or poor-performing servers or nodes with actionable details for faster MTTR.

Savvius says *Spotlight* also has applications for network security. It can sift through millions of flows in real-time to identify any that violate IT policies or have characteristics deemed suspicious or worth investigating. Users can gain instant visibility of traffic to or from any IP address, and focus on flows of greatest interest by defining filters. They can then instantly home in on trouble spots, and use a single-click 'Investigate' button (on the *Omnipliance*) for packet-level forensic investigations.



automatically, Stormshield says the creation of these accounts can be completely delegated.

There's also *Sponsorship Mode*. Here, the request to connect to the internet is sent to an internal administrator for approval. Stormshield says that creating an account is therefore no longer necessary as the entire process is automated with a simple click on the administrator's mobile phone.



UK's cyber security skills crisis 'eases'

A surge in interest from candidates has helped shrink Britain's cyber security skills gap, according to global job site Indeed.

At the start of this year, the firm found that the country's cyber security skills gap was the second worst in the world after Israel. But its latest study published in June revealed that the shortage of professionals with the most in-demand skills has "eased" by 36 per cent in the last two years.

By tracking the number of cyber security roles advertised on Indeed and the number of clicks from candidates, researchers were able to gauge the difference between demand and supply. Between the first quarter of 2015 and the same period this year, the company says that while the share of cyber security job postings rose by 2.8 per cent, the share of candidate clicks increased by 40.3 per cent.

According to Indeed, the rapidly rising level of interest helped narrow the skills gap "dramatically" at the end of 2016 and start of 2017, even if an overall 42.7 per cent mismatch showed that demand is still more than double supply.

Within cyber security, the researchers found the greatest skills gap was in cloud security. Here, the share of jobs posted exceeded candidate interest by nearly ten to one (*see table below*). In malware security and disaster recovery – both areas that saw high-profile cases in May – demand exceeded supply by four to one.

Mariano Mamertino, EMEA economist at Indeed, said: "While the skills gap has narrowed, demand from recruiters is still double the supply of candidates, forcing many at risk companies to offer increasingly attractive packages to woo the talent they need to protect one of their most precious assets – data."

Rank	IT sector	Mismatch
1	Cloud	13.4%
2	Identity & access management	17.3%
3	Network security	20.5%
4	Application security	25.7%
5	Risk	28.4 %
6	Malware	39.5 %
7	Compliance	41.1%
8	Disaster recovery	41.5%
9	Forensics	64.4%

Cyber security skills gap by IT sector. Searches for jobs versus numbers of jobs posted, Q1 2017; the lower the number, the bigger the skills gap.

IISP unveils new infosec skills framework

The Institute of Information Security Professionals (IISP) has launched a new version of its Skills Framework, which it claims is widely accepted as the *de facto* standard for measuring the knowledge, experience and competency of information security and assurance professionals.

The not-for-profit organisation says the 2017 version reflects the evolving threat landscape, new technologies and significant changes in cyber skill profiles and challenges. The latest framework includes new skills groups for: threat intelligence and assessment; threat modelling; cyber resilience; penetration testing; intrusion detection and analysis; incident management; and investigation and response. It also expands the roles of enterprise and technical security architecture, and redefines the skills profile for audit, compliance and testing.

In addition, the IISP says the new framework puts more focus on management, leadership and influence, business skills and communication, and knowledge sharing. The four defined competency levels have also been expanded to six – two based on knowledge and four on measuring practical experience.

The National Audit Office has recently warned that a lack of skilled workers is hampering the fight against cyber crime. The ISSP believes its new framework will help on multiple levels, from raising the standards of professionalism and allowing companies to identify gaps in their experience and competency, to encouraging new talent into the industry and helping to educate students and train individuals.

IN BRIEF...

Arrow ECS has added the new Check Point R80.10 courses to its programme. They include *Cyber Security Administrator* and *Cyber Security Engineering*, as well as a five-day fast track version that combines both courses. Arrow is now also offering Juniper's recently launched *Introduction* to the Junos Operating System v15.a. This three-day virtual course combines the previous *IJOS* and *JRE* courses and adds further content.

■ The Greater London Authority (GLA) is now inviting applications to strand 2 of the Mayor of London's Digital Talent programme. There is a total of £500,000 available for a revenue grant funding contribution toward the costs to setup and deliver new, non-accredited 'bootcamp' (8-24 weeks) training opportunities for 18-24 year-olds living in London. Capital funding is also available to support delivery costs. The Digital Talent Programme has been developed by the GLA to increase the number of women and young people from black, Asian, minority, ethnic (BAME) and disadvantaged backgrounds in jobs that require digital skills.

■ *Microsoft Azure* is fast becoming a staple of modern IT, according to New Horizons. The training specialist has identified three skills that are particularly useful for IT pros to focus on: *Azure* SQL database; *Azure Active Directory*; and Azure *Bot Services*. With the latter, New Horizons says bots can be published to apps such as *Skype for Business*, *Bing* and *Cortana*, where they can provide seamless integrations with third-party services.

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