

future success

Feature, pp11-13

# LTE to replace TETRA network for UK emergency services

#### by Rahiel Nasir

sensor systems

News, p4

The TETRA communications system used by the UK's emergency services will be replaced by LTE. EE has been selected by the Home Office to provide a resilient national mobile network, giving 300,000 critical emergency workers access to 4G voice and data services for the first time.

Since 2000, the emergency services and public agencies have been using a bespoke communications network based on the Terrestrial Trunked Radio (TETRA) digital standard. This uses technology provided by Motorola Solutions and is delivered by Berkshire-based Airwave which was originally set up by O2 at the turn of the century. The network reportedly costs the taxpayer around £450m to run each year.

But under its £1bn Emergency Services Mobile Communications Programme

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(ESMCP), the Government now wants to ensure that the UK is a 4G pioneer and a world leader in emergency services communications.

Real World Networks,

It has already carried out a procurement process: US-based technology, engineering and construction specialist KBR (formerly Kellogg Brown and Root) has been awarded the contract for delivery partner; Motorola Solutions has been appointed user services partner; and EE was announced as the mobile services partner last month.

The Government says ESMCP is now in the mobilisation phase, and it is also managing a number of projects to support the main procurement. These include, amongst others: the upgrade of more than 200 integrated command and control systems; connection to mobile data, fire

DATA CENTRE

mobilising, and command and control systems; and extended area services.

The latter is based on the mobile operators commitment to provide 98 per cent in-building coverage and 90 per cent geographic coverage. It also relies on the mobile infrastructure project, a government initiative to improve rural mobile coverage.

EE claims its 4G network will "significantly improve" the efficiency of the emergency services. It says users will gain access to the type of data and applications that have benefited private businesses in recent years, and which have not all been possible using TETRA.

For example, the mobile operator says the network will give ambulance crews the ability to send vital data on to a hospital so that staff can prepare for a patient's arrival; police officers will be able to stream live footage from body worn cameras to nearby officers for assessment and support; and fire and rescue teams will be able to assess a burning building based on digital blueprints using tablets and live helicopter camera footage.



up and running

Off-the-shelf, p14

EE says its 4G network will give 300,000 emergency services workers access to the type of data and applications that enterprises have been using in recent years.

(Continued on page 2)

# Direct marketing companies will have to display caller line ID

Direct marketing companies will have to display their telephone numbers under new Government plans to tackle the issue of nuisance calls.

The Department for Culture, Media and Sport (DCMS) says the proposal will help improve consumer choice by making it easier for people to refuse and report unwanted marketing calls.

The DCMS adds that it will also make it easier for the Information Commissioner's Office (ICO) to investigate and take enforcement action against callers who persistently and deliberately break the rules.

Companies found breaching the law can be fined up to half a million pounds depending on the type of calls and severity of the case. According to the DCMS, research shows that around one in five live and automated direct marketing calls that were reported to the ICO as a nuisance call did not provide valid caller ID.

It says that over the past few years there has been a substantial rise in the number of concerns reported to the ICO about nuisance marketing calls and texts, with an increase of more than 11 per cent in 2014/15 alone.

The office imposed more than a million pounds worth of penalties for nuisance calls and texts in 2015, with the same amount in the pipeline for early 2016.

Following a consultation process that closes in February, the Government plans to bring the new measure into force during the spring.

## EE 4G network

(Continued from page 1)

EE's new 4G Emergency Services Network (ESN) will replace the existing TETRA system from mid-2017 as current contracts expire. The firm says its dedicated Emergency Services team will work closely with Airwave, Motorola Solutions, KBR, and all end users to manage a smooth transition to the LTE-based network.

It adds that it has already committed to spend £1.5bn on its network up to 2017, and will increase that investment in order to deliver the ESN.

EE plans to build a new, highly resilient dedicated core network for the emergency services, as well as more than 500 new sites, expanding coverage in rural areas. It will also switch on low frequency 800MHz spectrum on more than 3,800 sites to enhance rural and indoor coverage.

As part of the ESN, the operator says it will implement the capability to support network access priority to the emergency services when required, introduce VoLTE and new LTE voice capabilities including push-to-talk, deploy a fleet of rapid response vehicles to ensure maximum service availability, and use satellite backhaul for the most hard-to-reach areas.

EE is the UK's largest mobile operator and claims to be Europe's first to surpass 10 million 4G customers with LTE coverage that reaches 94 per cent of the UK population. It is currently in the process of being acquired by BT in a deal worth £12.5bn, and has recently been given final clearance by the Competition and Markets Authority.

In separate news announced in early December 2015, Motorola Solutions said it planned to acquire Airwave for £817.5m.

TIM

# Many European data centres lack energy efficiency objectives

Many European data centres are operating and making decisions "in the dark" when it comes to their energy efficiency strategies, according to The Green Grid.

Last October, the industry body surveyed 150 IT decision makers within end-user organisations with data centre responsibilities in the UK, France and Germany.

It found that while the majority are facing growing pressures to improve data centre efficiency, 43 per cent of those polled have no energy efficiency objectives in place. Additionally, 97 per cent felt that they could improve their monitoring capabilities.

"The real world objectives of data centre management and the ability to keep track of energy efficiency should be going handin-hand if resources are to be effectively managed," says The Green Grid's EMEA



marketing chair Roel Castelein. "What our research shows is that while data centres are recognised as a central part of organisations' energy efficiency strategies, many are operating and making decisions, to a certain degree, in the dark." The research also revealed that the top four challenges and opportunities at the board level all focused on reducing and predicting costs, rather than on 'green' or resource-efficient objectives.

Castelein says data centre managers need to adapt their ambitions for the future, moving away from immediate return on investments and towards long-term sustainability.

He adds that to match the EC's expectation for data centres to be at least 80 per cent powered by renewable energy by 2020, IT leaders will need to commit to renovating their resource efficiency policies.

The Green Grid is a global consortium of firms, government agencies, educational institutions and individuals dedicated to advancing resource efficiency in IT and data centres.

## EC agrees reforms to data protection regulations

The European Commission has agreed a new regulation that aims to put an end to what it describes as the "patchwork" of data protection rules that currently exists in the EU.

Following an agreement reached during a so-called 'trilogue' meeting between the European Commission, Council and Parliament last month, the EU data protection reform consists of two instruments: the General Data Protection Regulation (GDPR) and the Data Protection Directive (DPD). The EC says the new regulation is an essential step to strengthen citizens' fundamental rights in the digital age and facilitate business by simplifying rules for companies in the "Digital Single Market".

It adds that a single law will also do away with the current fragmentation and costly administrative burdens, leading to savings for businesses of around €2.3bn a year

The GDPR will enable individuals to obtain more information on how their data are processed. The EU states that this information should be available in a "clear and understandable" way.

The regulation also clarifies the 'right to be forgotten'. When individuals no longer want their data to be processed, it will be deleted provided there are no legitimate grounds for their retention.

In addition, the GDPR gives EU citizens the right to data portability so that they can more easily transfer personal data between service providers, as well as the right to know when their data has been hacked. The DPD gives the police and criminal justice sector more harmonised laws to facilitate cross-border cooperation and combat crime and terrorism more effectively across the continent. The EC says it will ensure data belonging to victims, witnesses and suspects of crimes are duly protected in the context of a criminal investigation.

It adds that the DPD provides clear rules for the transfer of personal data by law enforcement authorities outside the EU, to ensure that the level of protection of individuals guaranteed in the EU is not undermined.

The new rules will become applicable in 2018. The EC plans to work closely with member state data protection authorities to ensure a uniform application of the revised regulations during the two-year transition phase.

Companies based outside of Europe will have to apply the same rules when offering services in the EU.

# Avanti to provide UK's "fastest" broadband using VSAT networks

Satellite operator Avanti Communications Group is deploying VSAT (very small aperture terminal) technology from Gilat Satellite Networks to provide what's claimed to be the fastest available broadband internet access to rural households throughout the UK.

Under the BDUK initiative, Avanti will use Gilat's compact *Gemini* satellite routers. The Israel-based satellite technology specialist claims its routers offer high-performance and are designed for cost-effective residential use as they are superfast and easy to self-install.

"We chose Gilat equipment because it adds a new dimension to our portfolio," says Matthew O'Connor, Avanti's chief operating

officer. "At 30Mbps,

Gilat Satellite Networks' Gemini is said to be the fastest broadband router currently available on the consumer market. it is the fastest product in the market at a consumer price point."

UK-based Avanti Group says it has invested \$1.2bn in a network that incorporates satellites, ground stations, data centres and a fibre ring. The operator adds that it offers a "unique" cloudbased flexible customer interface that is protected by patented technology.

Avanti currently has three satellites in orbit and two more under construction. Through its *HYLAS* fleet and more than 150 partners in 118 countries, the company says it runs a network that provides ubiquitous internet service to 27 per cent of the world's population.



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# Satellite technology supports latest Welsh broadband scheme

Welsh Government has announced significant revisions to its Access Broadband Cymru (ABC) broadband voucher scheme. All homes and businesses across Wales that are currently unable to receive a superfast connection can now apply for support.

Estimates suggest that more than 100,000 premises will now meet the new qualification criteria. To be eligible, a home or business must currently receive broadband speeds of less than 24Mbps. The subsidy will help pay for the setup costs of an improved service, provided that it at least doubles the current connectivity levels at the premises.

The level of subsidy support available varies from £400 to £800, depending on the service selected by the qualifying property. Those eligible may choose from a range of technologies, dependent upon availability at their location.

Satellite Internet, a specialist satellite ISP serving homes and businesses in rural and hard-to-reach areas across the UK and Eire, is supporting ABC as a registered supplier.

"The beauty of a satellite-based internet solution is that it can be provisioned at any location where there is a clear line of sight to the southern sky," says Satellite



Satellite Internet MD Mike Locke says satellite connectivity is the answer for the final five per cent of UK properties without superfast broadband.

Internet MD Mike Locke. "This allows it to offer a fast and robust connection to reach those areas where it is simply unfeasible to deploy any other internet delivery technology."

Satellite Internet says it offers packages that can deliver speeds of up to 30Mbps using SES Techcom's SDN and DTH systems. SES Techcom is a subsidiary of Luxembourg-based satellite operator SES which runs a global fleet of more than 50 geostationary satellites.

# **GÉANT** extends **100GbE** into data centres with **Cloud Xpress**

GÉANT, the operator of the pan-European network that connects more than 50 million users at 10,000 academic and research institutions across Europe, has deployed Infinera's Cloud Xpress to extend its 100GbE connectivity into data centres.

CERN's famous Large Hadron Collider. The organisation, along with the UK's Jisc, will use Infinera's technology to connect to a data centre in Budapest.



#### THE WORLD ACCORDING TO... Jon Arnold, MD, Volta Data Centres

#### Time to negotiate a better deal with your data centre services supplier?

Most data centres promise 100 per cent availability and resilience. But what happens when an outage occurs? Under the typical SLA, the standard service credit of five per cent of the monthly fee kicks in, rising as the outage continues until typically reaching the 30 per cent cap.

Given the complete standardisation across the DC market, it is little wonder that just a fraction of companies look to negotiate the SLA and, if possible, push for a small percentage service credit increase.

But is this really good enough? When even a ten second outage can have significant financial and reputation ramifications, just what is the value of a five per cent monthly rebate?

The problem is that companies have had little leeway for negotiation in a market that has got away with vanilla SLAs for too long. Why are DC providers not delivering SLAs that match their much-vaunted investment in resilience and availability? Is it because, perhaps, when you look beyond the headline promises, that resilience actually looks a little more fragile than at first glance?

Of course, there are degrees of resilience and availability. For instance,

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The initial links are being provided to Jisc, the UK organisation for education and research digital services which enables the Janet network, and CERN, the European Organisation for Nuclear Research. They will utilise the system to deliver connectivity to their data centre in Budapest.

Cloud Xpress is based on photonic integrated circuit technology and is claimed to support up to 1Tbps of input and output capacity in just two rack units. With its small form factor and low power while one DC can boast failover generators should the main grid fail, another can offer two separate power lines from two separate grid supplies. Given such divergence in actual resilience and quality, isn't it time the market reflected this difference in the SLA?

One radically different approach is the evolution towards hourly charging. A payas-you-go service means businesses are charged on an hourly basis for the amount of power used, with itemised billing to enable them to accurately monitor their power consumption.

Another new model is to provide a choice of SLAs - a standard version offering the traditional service credits, and a top-level agreement providing one year of free service credit if 100 per cent power availability is lost to a rack.

A vanilla SLA across the market makes no sense. And the fact that just 10 per cent of companies look to negotiate that SLA simply reflects the frustration many feel about the lack of choice. Changing the small print will ensure firms finally match resilience and availability promises to business reality.

> The views expressed in this magazine are not necessarily those shared by the editor or the publishers.



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consumption, Infinera says its system delivers a full 500Gbps "super channel" of WDM (wavelength division multiplexing) line-side bandwidth over 150km without any need for additional multiplexers or amplifiers, and up to 600km with an amplified line system.

It adds that Cloud Xpress also enables efficient scaling and simple provisioning, and features open interfaces to plug into existing cloud provisioning systems using SDN application programming interfaces.







#### Bristol to become next Gigabity City

CityFibre has launched an ultra-fast digital network for Bristol in partnership with locally-based ISP Triangle Networks. It will begin work to commercialise 82km of pure fibre network assets in the city and surrounding areas. This is the first 'Gigabit City' to be launched by CityFibre following its £90m acquisition of KCOM's national fibre networks last year (see Networking+ online news at http://tinyurl.com/hybtga7).

#### VMware tightens security

VMware has warned that versions of its ESXi, Workstation, Player and Fusion for Windows suffer from a kernel memory corruption which could be exploited. In an online security announcement, the firm said it was fixing the flaws. It has also been working with Intel Security to tighten up the security of its mobile cloud systems. The two firms will allow clients to share mobility data via the McAfee Data Exchange Laver which is a component within Intel Security's system.

#### **Camworth acquires** Cabletec

IT solutions provider Camworth has acquired Bristol-based cabling firm Cabletec Communications. Operations director James Luck says the acquisition allows Camworth to deliver a full range of services, including Cisco solutions and comprehensive support. He adds that all Cabletec employees will be retained. This is the first of a series of planned acquisitions for Camworth as it aims to increase its in-house resources while also opening up new market opportunities both regionally and nationally.

#### New Openreach CEO

Clive Selley has been named as Openreach's new CEO. He will replace Joe Garner who is leaving to become CEO of the Nationwide Building Society. Selley is currently group CIO as well as CEO of BT Technology, Service and Operations which manages the telco's core network. He will formally take over from Garner later this quarter. The appointment coincides with the tenth anniversary of Openreach which was launched on 11 January 2006.

# New research project aims to 'unify science' around sensor systems

A new research project led by four UK universities aims to deliver more reliable sensor-based systems that will determine the future success of smart cities, the Internet of Things, Big Data and self-driving vehicles.

The Science of Sensor Systems Software (S4) project brings together researchers from the universities of Glasgow, Liverpool, St. Andrews and Imperial College London, along with experts across computing, engineering and mathematics. A number of companies and scientific organisations are also involved, including: ABB; British Geological Survey; CENSIS; Freescale; Rolls-Royce; Thales; and Transport Scotland.

S4 aims to develop new principles and techniques for sensor system software. It's claimed the outcomes could lead to more robust water networks, more responsive air



Experts involved in S4 aim to develop more reliable sensor-based systems for applications such as self-driving cars as being pioneered by firms such as Tesla and Google (pictured).

quality monitoring, reliable autonomous driving, precision manufacturing, and more

Glasgow University's Professor Muffy Calder and S4 co-leader says: "Although sensors are becoming ever more commonplace in all kinds of devices around us and in our everyday lives, sensors themselves and the environments in which they operate are very uncertain: we don't have a unifying science to ensure that the systems and the information they provide is resilient, responsive, reliable and robust."

Calder says that by the end of the project, the team will have answered a number of fundamental questions about how to design, deploy and reason about sensor-based systems. They will also demonstrate the applicability and effectiveness of the new techniques across a range of applications.

S4 will run until 2021, and is supported by a grant of almost £4.2m from the Engineering and Physical Sciences Research Council.

## End user analytics aim to cut calls to IT helpdesk

The London School of Hygiene and usage and bandwidth, error messages Tropical Medicine (LSHTM) is aiming to improve the visibility of its IT infrastructure with the help of Nexthink.

The vendor says the school is using its V6 modular platform for end user analytics as part of an ongoing aim to deliver "exceptional" IT quality to staff and students.

The LSHTM has more than 4,000 students and 1,000 staff working in over 100 countries. It has 55 full-time IT staff which includes a 12-strong helpdesk team that fields around 500 calls a week.

Nexthink says its platform proactively monitors IT networks and reports on important end-user related events, such as changes in the IT infrastructure, application

and crashes, as well as potential security risks. It says this ensures the performance of IT services is recorded and uniquely visualised from the end-user's perspective.

Prior to deploying V6, the school's IT team mainly focused on managing incidents and responding to service requests, with little time spent on investigating and resolving underlying problems.

The LSHTM's CIO Jon Faulkner says: "Through the use of Nexthink, we hope to gain swifter clarity as to the root cause of problems so that we can respond in a timelier manner, and before other endusers become impacted by the same underlying issue. This level of analysis

will also enable helpdesk staff to pass on greater detail to third line support for the more complex matters to be resolved."

The solution will be deployed to all school issued devices and in all locations. Faulkner says the aim is to reduce the average number of calls to the helpdesk by 15 per cent.

He adds that in parallel to this, the LSHTM will also take advantage of the ability to design "more elegant" solutions during change activities to ensure that it is not "building problems for the future".

Another critical area of benefit will be the security analytics tools that are integrated with V5. Faulkner says these will further strengthen the school's existing security capabilities.

# Volta and C4L deliver direct connections to Amazon

Colocation solutions are now available via Amazon Web Services (AWS) at Volta Data Centres as part of C4L's Service Provider (SP) Connect service.

The partnership allows Volta customers to be able to take advantage of Amazon Web Services directly from their IT infrastructure by using C4L's private fibre network between Volta and AWS.

It's claimed this results in higher performance and greater security as AWS traffic routes directly rather than traversing a public internet circuit. The companies

add that bandwidth charges from Amazon are also lower on direct connections when compared to public links.

C4L says its 100Gbps MPLS network covers all of central London and features key POPs across the UK, providing direct access to AWS as well as other cloud service providers.

SP Connect is available at all on-net data centres/POPs on C4L's coreTX network which includes more than 50 sites in the UK. C4L CEO Simon Mewett says: "SP Connect enables businesses, carriers,



C4L's CEO Simon Mewett says SP **Connect allows** organisations to realise the full potential of the CoreTX network.

ISPs and content providers to realise the full potential of the *coreTX* network by connecting directly to multiple service providers in any location, no matter where their equipment is physically located."



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# **BT** accelerates "Cloud of Clouds" with hosted **Riverbed service**

BT will deploy virtual Riverbed's SteelHead application acceleration technology in the core of its global network.

The two companies are embedding their services at global business hubs in Europe, North America and Asia in locations where BT has direct links to leading cloud providers and high-capacity internet breakout. The new service will be available globally from early this year, and accessible via BT's IP Connect VPN from 198 countries and territories.

The move is part of the telco's "Cloud of Clouds" vision (see News, Apr 2015). BT claims it will provide "superior" application performance for customers accessing its cloud services as well as SaaS offerings from other providers. The two firms say a series of pilots of the new capability showed "substantial" network performance improvements for SaaS applications such as Microsoft Office 365.

In addition to application acceleration and network bandwidth optimisation, BT says customers using the new service also gain increased control over their applications, better end-to-end visibility performance, and significantly into improved reliability and security compared to delivering applications over the internet.

"By including Riverbed-as-a-service in



BT's Cloud of Cloud service aims to enable multinational organisations to connect to the data and applications they need, independently of where they are hosted.

our offering, we address one of the key issues faced by our customers: the performance and reliability of applications hosted in the cloud." says Keith Langridge, VP of network services at BT Global Services. "This joint offering is a milestone on the journey to softwaredefined networks, and creates an additional differentiator against our competitors.'

Using NFV, BT adds that the service will also help customers take advantage of broader virtualised functions, such as application performance management and the management of high-speed access to private and public clouds.

## Colt and SoftLayer claim highest performing cloud infrastructure

Colt is providing support for IBM's Direct Link services. The network, voice and data centre services specialist says this will allow customers to establish a private network connection from their own IT infrastructures to cloud-based content and compute capacity running in SoftLayer's data centres.

The new services are being rolled out globally and are available in Europe using Colt's private network services. The company says dedicated cloud access will enable *Direct Link* users to manage access to their infrastructure and services, the speed of their connection, as well as how data is routed.

It's claimed the new service will give enterprises access to the "highestperforming" cloud infrastructure available.

Zhongmin Guo, Colt's VP of products and strategy, says: "As enterprises come to rely on the benefits of cloud architectures, such as scalability and development agility, IT departments are placing more businesscritical and customer-data-dependent applications into cloud networks.'

The firm says the key benefits include higher network performance consistency and predictability, streamlined and accelerated workload and data migration. and improved data and operational security.

Jack Beech, SoftLaver's VP of business development, adds: "As we roll out the cloud services to our customers, the security and reliability of the network connection is key to ensuring they can fully benefit from cloud services. 



#### VIEW FROM THE TOP a Visconti-Patel, senior director EMEA sales & marketing, RingCentral

#### Is the landline still a lifeline?

For a century, the desk phone has been a staple of every business. For some purposes, like conference calling, there was simply no substitute. Until a few years ago.

Over the last decade, we've seen a shift in how and where employees work. Wi-Fi and cellular technology have ushered in an explosion in mobility. Many employees are no longer confined to an office.

Companies have leveraged the power of cloud technology to branch out, setting up distributed office locations while still connecting staff with shared resources such as cloud-based productivity software, document storage and collaboration suites.

While many now work exclusively using a mobile, a lot of organisations still rely on conventional on-premise PBX-style landline desk phones to keep staff connected.

Many of these traditional on-premise systems are siloed and proprietary, and adding new locations or users can be costly and timeconsuming. Conventional landlines simply don't work at the pace of modern businesses.

Cloud technology is answering the call to be the phone of the future. It makes calling, faxing, voicemail and other conventional telephone tasks accessible anytime, anywhere and on virtually any device. From a management perspective, setting up new locations and users on a cloud-based system is as simple as installing software or an app.

Offering flexible and scalable technology, ease of use and minimal management, cloud-based communication solutions are better value over on-premise PBX technology. They are also pay-as-yougrow systems, with subscription fees based on the number of users and features.

IT is viewed as a cost centre, a necessity of doing business, enabling 'real' enterprise drivers such as sales, marketing, manufacturing and customer service to do what they do best. Initiating a strategy to evaluate and switch to a cloud-based communications platform saves time, money, and supports business growth.

## IT department "out of the loop" when it come cloud procurement

The majority of UK businesses now use cloud services, but strategy and cost reduction present major challenges, according to recent research by Adapt.

In a study published last month, the managed cloud services provider polled 200 senior IT decision makers from companies with more than 200 employees. It found that 92 per cent of medium and 85 per cent of large businesses now use cloud services in one form or another. More than half viewed cloud as a way to reduce IT costs, but 42 per cent said they were finding it a challenge to meet that objective.

Adapt says while the figures demonstrate that the case for cloud has been made, medium to large firms have still not evaluated how to make the most effective use of cloud services strategically. It believes the use of different cloud providers for different purposes could be partly to blame here, and also because the IT department is "out of the loop" when it comes to the procurement process.

More than half of respondents said they are already using more than one cloud provider,

with a sixth using three or more. Adapt reckons a key driver in the use of multiple providers has been the bypassing of the IT department by functions such as marketing, business development and sales to identify and procure cloud services specific to their needs.



Respondents were asked to pick the most challenging objectives for their business to meet with cloud technology.



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# **Motoring ahead**

#### How organisations in the transport sector are using IT to keep traffic moving.

# IBM puts RAC on the road to the cloud

The RAC has more than 4,000 employees and seven million members. Under the ownership of the Carlyle Group, the organisation aims to grow and diversify its business by developing a wider range of services for motorists.

However, its plan was hindered by an inflexible IT architecture. Over many years of growth and acquisition, the RAC had deployed or inherited dozens of different IT systems which were linked together by a variety of technologies. It also needed to manage more than 180 external interfaces for communicating with suppliers and partners.

"With such a complex integration landscape, it was very difficult to make changes quickly and safely," says Michael Clayton, lead enterprise architect. "Doing development work on one system would almost inevitably have an impact on other systems. Supporting new business requirements became complex and expensive."



The RAC decided to transform its IT architecture by creating a central hub that would handle integration for all its systems.

Clayton says the ultimate aim is to use cloud-based solutions to provide many of the services needed. "With our old architecture, this would have been impractical; but with an integration hub, we will be able to mix on-premise and cloud services in whatever combination best suits the business."

Working with global IT services company Prolifics, the RAC chose IBM's software as the platform for the hub. It selected *WebSphere MQ* and *WebSphere Message Broker*, with *SmartCloud Monitoring* providing insight to help maximise performance and availability.

Standardising on *WebSphere* has enabled the company to cut its licensing costs for integration software by around 50 per cent, as well as significantly reduce maintenance costs by enabling the elimination of hundreds of point-to-point interfaces.

The RAC has already begun launching new services and time-to-market has been significantly accelerated. CTO John Moe says: "On average, we're now able to bring new services online within about ten days, instead of six to eight weeks. This not only benefits us and our members, but also our partners. It's [now] easier for third parties to integrate their systems with our hub than with each of our systems individually."



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# Parcelforce recovers £4m in duty charges

Parcelforce Worldwide is said to be the leading provider of express deliveries in the UK, importing and delivering parcels from all over the world to more than 27 million addresses. It operates a network of five call centre facilities across the country to support 53 depots which are critical in managing the effective delivery and collection of parcels.

Any parcel coming into the UK may be subject to additional import duties or other associated charges. In these cases, Parcelforce must pay the fees directly to the UK Border Agency (UKBA) before the parcel is released and can be delivered. The firm will only be reimbursed of the UKBA costs once the receiver pays the charges.

Historically, Parcelforce requested payment from the customer at the point of delivery. However, customers were not always aware that a payment was needed. And when they were able to pay, another problem was that drivers were not equipped to deal with card transactions. "We were losing over £1 million per annum in unrecovered duties," says operational support manager Patrick Morgan.

Complicating the problem further, Parcelforce lacked the business tools needed to manage card payments over the phone in a compliant manner. Card industry regulator PCI DSS specifies that Credit Card Validation Value must not be kept postauthorisation, and that full personal account numbers should not be kept without further protection measures. There must also be no human interaction with the card details, no storing and no manual recording of the data. Parcelforce's existing telephony solution

was unable to meet these regulations. There was no automated process to take card details so every caller had to speak with an agent to process duty payments.

The answer was to implement *ContactWorld for PCI*, a fully PCI-DSS compliant self-service payment system based on NewVoiceMedia's technology. This allows customers to pay duty charges prior to delivery, either via the Parcelforce website or over the phone. In the case of the latter, customers can pay with cards using their phone keypads, so no human interaction or manual storage of card details is required.

The solution is fully integrated with the firm's *Parcel Management System* and sends daily update reports to depot managers alerting them to the status of each parcel, and whether or not it can be delivered.

"NewVoiceMedia was the only provider to offer both PCI web and phone options that could cross both analogue and digital lines," says Morgan. "It meant we didn't have to spend a fortune on intelligent phones; the system could work with our current hardware unlike other provider options."

The results have seen Parcelforce reclaim up to £4m worth of import duties and VAT paid to UKBA on packages annually.

# Protecting critical infrastructure for the Tube

More than 4.2 million people use the London Underground (LU) each day. During the night, thousands of people are also busy at work to ensure that the Tube network's signalling, tracks and other critical infrastructure is maintained and upgraded.

Across the capital, LU maintains hundreds of facilities which provide access to tracks and tunnels, along with highly specialist equipment and spare parts needed for both routine maintenance and ongoing improvement work. Many of these depots and goods yards are often alongside track areas and need to be accessible 24 hours a day, sometimes at short notice, to allow engineering teams to carry out their tasks.

The theft of specialist equipment can impact the entire network as certain items are custom made for LU and require manufacturing lead times of up to 20 weeks.

Although the depots offer convenient access, their trackside locations place some restrictions on how they are secured. LU therefore needed a surveillance solution that took into account the limitation imposed by a depot's location while addressing the need to maintain 24-hour access with full audit of who accessed the site and what equipment had been removed.

The organisation was also keen to avoid cumbersome pan-tilt-zoom cameras and external housings while still ensuring the site was always covered and by using the least number of devices possible.

Systems specialist Vicom proposed a solution using a combination of MOBOTIX thermal and hemispheric cameras, as well as advanced analytics with local access control with remote monitoring.

One entire site was designed to be secured using just six cameras. The system is also integrated alongside IP access control, intruder alarm, and P.A. systems which are remotely monitored 365 days a year by an NSI Gold Alarm Receiving Centre.

Different areas can be armed independently while the thermal imaging combined with MOBOTIX's *MxAnalytics* system built into each camera can detect movement and emit an audible alarm. *MxAnalytics* also makes it possible to track the movement of people and objects in the image, and collects statistical behaviour data to maintain a complete audit of site activity.

The whole project took just 12 weeks to complete. Since implementation, the system has proved effective, with only some minor remedial work required to secure the site against the encroachment of urban wildlife such as foxes that occasionally trigged alarms which were quickly identified on closer inspection of the actual footage.



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#### EMERSON. CONSIDER IT SOLVED".



# As networks become ever more complex, IT blogger DAN I.E presents a personal view of why a more real-world view is needed when it comes to training and gaining expert knowledge.

ver the last 20+ years, I have worked in IT as an administrator, manager, director, architect and owner of an information management consultancy firm. I like to think I embrace the principle of lifelong learning which was instilled within me at a very early stage of my career.

Few would disagree that a well-trained and motivated employee is ultimately far more effective than an untrained and demoralised one. However, most of us are working longer weeks yet we never seem to accomplish our goals. Some may argue that this is because the goals simply keep changing and thus, as individuals, we are powerless to commit ourselves to longterm and worthwhile objectives.

If I marry this philosophy with an everdecreasing IT training budget, the end result may look something like this:

 IT professionals have less time to complete personal development tasks.
 They have less clarity on what tasks

2. They have less clarity on what tasks they may wish to accomplish, and even if/when these are undertaken, the results may no longer have as much value at the end of the process.

3. The organisations that we work for have less resources available to offer us, thus any training must be undertaken under our own initiative and with our own resources.

The result of these three things is that we end up 'firefighting' – we spend so much time upskilling on an informal basis that tasks take longer to complete and working weeks get drawn out.

For example, let me go back to point two above for a moment. I have many years of experience in designing and implementing *Microsoft SharePoint*  solutions. Organisations love to tick the box and say 'we do *SharePoint*' but I have only ever come across one that actually had a dedicated knowledge/ information management/taxonomy specialist. The reason such people are so few and far between is because these are not skills that can be picked up over a *WebEx* session or a *Google Hangout*. They take years of education and learning at institutions that are specifically skilled in delivering this type of training. Hence, not many people spend a weekend reading *Taxonomy For Dummies*.

#### IT pros are now just "wizard clickers"

When considering personal development and assessing the gaps in your professional knowledge, asking yourself 'what don't I know?' is one important question. 'What *should* I know?' is perhaps a better one.

If you look at some of the topics that have been hogging the headlines in recent times, IT professionals should be aiming to become experts in (cyber) security, Big Data, the Internet of Things (IoT), amongst others. And of course, network users are becoming increasingly mobile, so the issues of BYOD, unified communications, remote connectivity, etc., are also now essential.

We have all labelled ourselves as 'IT professionals'. But – and without wishing to come across as offensive – if we really want to know how something works, we must ask the programmers, developers, engineers and architects that design and build the software and hardware that powers our industry. Over the last eight years, IT pros have slowly abstracted themselves from the technology that we have all become so accustomed to, and have instead placed their trust in the few pioneers who still know what ones and zeros really mean.

Much of today's code is written in programming languages that are then compiled down into machine code. Servers and services are installed and configured through scripts and user interfaces that run commands which lead to yet more commands. In essence, the 'magic' of our art form continues to diminish. Rather than looking at ourselves as wizards with tricks and skills up our sleeves, we have simply become wizard clickers.

This is great for the most part because it has enabled end users to empower themselves and own more of what they do with IT. The downside is that IT boundaries have been eroded and the typical professional has been left wondering what's next?

#### Who you gonna call?

The continuous pace of change in our industry is such that it has become increasingly difficult for an individual to take time out to properly educate him- or herself in a particular subject matter.

We now drip feed ourselves information and are thus becoming more accustomed to learning on the job. I have seen this time and again throughout my own career. IT departments lack the required skills so they call in a consulting company or hire contractors; consulting companies and contractors lack experience so they look to their customers. IT is a perpetuating cycle of change whereby the one-eyed person is usually king.

The concept of taking a few days or weeks out for formal instructor-led training is hard to justify in today's fastpaced and ever-changing world, so we talk amongst ourselves in online forums and read white papers prepared by industry experts, manufacturers and vendors.

In a survey carried out towards the end of last year, specialist information learning technology training provider QA polled 100 IT decision-makers from UK organisations with 500 employees

#### Top 10 places for advice on increasing capabilities around cyber security

1.	11/technology services partner (92%)
2.	IT vendors (45%)
3.	Security consultant/consultancy (25%)
4.	Government bodies (20%)
5.	Training organisations (17%)
6.	Information Commissioner's Office (ICO) (16%)
7.	Accrediting body (14%)
8.	Peers (14%)
9.	Trade & industry associations (14%)

10. Colleagues (9%)

When asked which organisations they would go to for advice on increasing capabilities around cyber security, QA's survey revealed that an overwhelming 92 per cent would turn to their IT/technology services partner.

#### training

or more. One of the questions it asked them was where they would go to for advice on increasing their cyber security capabilities. Ninety-two per cent said they would turn to their IT/technology services partner, while almost half said they would go to IT vendors (also see table above: Top 10 places for advice on increasing capabilities around cyber security).

Richard Beck, QA's head of cyber security, says: "It would appear that those responsible for the security of organisations are putting the onus on the technology industry to solve their security issues."

He believes responsibility for keeping an organisation's data safe reaches into every corner of every business. "It doesn't matter how robust your technology is, you still face an element of risk. A holistic approach to security risk should ensure staff are educated against ever-increasing cyber threats." When asked about key areas for investment to protect against threats, 70 per cent of respondents in QA's survey said they plan to invest in hiring qualified cyber

But 84 per cent reported that it took on average up to three months to fill a cyber security skilled role on their team. As a result, Beck says hiring isn't a quick and easy solution: "Where will these skilled professionals come from? Everyone is struggling to fill cyber security posts on their team and one organisation's gain will

security professionals in the coming year.

become another organisation's loss." Beck points out that companies that motivate and reward their staff appropriately are far more likely to hold on to their cyber professionals once they've invested in training them. But while he believes investing in training and cross-skilling existing specialist staff is the answer, QA's research shows that currently only 31 per cent of organisations plan to invest in employee awareness and engagement training.

"It's encouraging to see that there is a growing acknowledgement that by training and cross-skilling existing specialist staff, companies can begin to address the skills gap," says Beck. "The key to making this approach work will be engaging the HR department to work alongside IT to develop strong staff retention strategies. Perhaps it is time security professionals shared some of the skills gap responsibility with their colleagues in HR?"

According to Beck, all companies should be teaching employees a 'Cyber Security Code' until it becomes instinctive. He says one way that organisations can try and limit the impact of a skills shortage in the IT department is to increase staff awareness of cyber threats. With a fifth of those surveyed acknowledging that the biggest threat to security this year is likely to be human error, educating staff on how to detect and deter common threats like social engineering or phishing attacks could prove invaluable in helping defend an organisation.

UK-based consultancy Ultima Business Solutions agrees here. Martin Collins, its head of networking and security, says: "The weakest link in your network is the human element, because those are the guys that are clicking on emails. The more cloud services you adopt, the more passwords you need, and the more you do that, the more people will need help because they will write them down. It's not just about technology. You also need process. And it's not just about process – you also need technology."

He goes on to explain that IT has become so ingrained in everyday business that each department, team and individual must now play their part in adopting new processes that support the technologies.

Collins admits this can be challenging. While big organisations have dedicated compliance and IT teams, responsibility for compliance in smaller organisation is often given to IT, which is where he reckons they fall down. "Compliance and information security should fall within every team. There should be a stakeholder within all teams within the business. There should be a stakeholder for finance, a stakeholder for marketing and a stakeholder for sales, because they understand the process. That should then link in with IT."

Like Beck, Collins reckons it's all about developing a programme to change the culture of an organisation to be more security conscious. With some form of cyber attack hitting the headlines almost every day, he believes there is an increasing general awareness of the importance of tackling cyber crime. But he points out that this is not something companies are actively preparing for unless there is a direct link to a potential threat.

"A common misconception from our customers, particularly the SMB or midmarket customers, is 'we're not a bank, so we don't see ourselves as a real target'. In reality, they are a target because their customers might be banks and because they work with them."

#### What you need to know

So if organisations aren't investing in cyber security skills right now, what are the hot topics for training in 2016?

Bill Walker, QA's technical director, says cyber security continues to rank high among the areas the company is seeing, along with DevOps, cloud, Agile and Big Data.

He admits some of these are still fairly small. For example, more people are talking about Big Data than doing it, but he adds that it's certainly growing, particularly for QA. "I would probably agree that with Big Data, people are burying their heads in the sand and thinking more about what it actually does and asking is it for me. With things like the cloud, people are being more savvy because they are seeing the benefits."

With regard to what is slowly dropping off the radar, Walker says there are some particular technologies, such as Citrix and VMware, that are clearly challenged. "I would say VMware is probably where there is some saturation in the market. And some of the core technologies, Oracle for example, are struggling a bit."

But when it comes to core networking skills, Walker says training specialists have to remain robust. "If we look

# Accelerated degradation of balanced twisted pair performance due to the use of remote powering (PoE+)

#### Overview

It had been observed during testing carried out in conjunction with De Montfort University in 2014 that heating due to remote powering over twisted pair cables appears to degrade the cable performance. With power heading towards 100W, this could be significant. In fact we even witnessed failure within the cable bundles when thermally insulated and operating at this high power and hence temperature, this was presented in the Proceedings of IWCS 2014.

In this present study, we assessed the performance degradation of balanced twisted pair cable by repeated heating cycles for both temperatures within the standards specification and beyond. It was suspected that repeated heat cycles would lead to accelerated ageing of the compounds used for the dielectric insulating materials around the conductors, which in turn would lead to changes in the performance values of the cables when tested.

Part of these assumptions were based upon work being carried out by SPIE the Specialist Plastics Industry group who are looking to launch similar research in conjunction with UL (Underwriters Laboratory) after they had related concerns regarding the performance of the cladding materials used in fibre cables.

The tests in the study thermally cycle the cable from an ambient of +20 degrees up to an ambient of +70 degrees to see if there is any substantial 'knee point' in behaviour. Also, to assess the performance degradation at elevated temperature, the thermal cycling was extended to about 120°C.

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degradation of balanced twisted hance due to the use of

#### Background of Study

The specification of the IEEE 802.3at includes 60°C as the maximum acceptable operating environment for cabling supporting PoE+. However, the Addendum TIA TSB-184 specified 15°C as the maximum allowable temperature rise above ambient for any cable rated for 60°C. This means, no matter how much power is being pushed down the cable, the number of cables deployed per bundle, the cable type and the installation condition, temperature rise above 45°C for instance, will have to stay within the 15°C limit...

#### **Experiment Description**

The experiment into accelerated age testing was performed on a Category 6 U/UTP cable link. As shown in figure 5 below, the laboratory set up consists of a DSX-5000 Cable Analyzer, kindly supplied to the University by Fluke Networks, with the appropriate permanent link adapters, a set of thermocouple sensors of K type, a wire basket tray, a temperature data logger for the automatic temperature readings from the thermocouple sensors, some heating elements for the purpose of heating the cable externally, Power Supply Units (PSU) that were used for powering the heating elements, a constructed heat chamber and a 50m length of Category 6 U/UTP that was subjected to thermal degradation inside the constructed heat chamber...

#### Conclusion and Recommendation

Remote powering is a fact of networked life, aging and degradation is to be expected during remote powering. It can be minimized by avoiding extreme temperatures or by 'running in' the cables by powering them up to get them

hot prior to installation (pre-aging) and then rechecking that they still meet specifications. There are two key aspects that this paper impacts. The first is the physical behaviour of the cabling and the second is the implications that this has on the integration of cabling within the building design...

> To read the complete text of the Excel White Paper, go to www.excel-networking.com > Downloads > Excel Whitepaper: Accelerated Degradation

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at the training that we do around networking, particularly cyber threats and vulnerability, your classic sort of Cisco, CCNA technologies are all doing very well. Maybe because those are areas you really can't skip on – because if you do and something goes wrong, it will go wrong very, very quickly. You either can't access something or it keeps going down."

Walker says relatively newer technologies such as Amazon Web Services and *Microsoft Azure* are also growing. Even though numbers from organisations are small at present, he says many are sending one or two trainees to test the water with these new cloud services.

"You'll get trailblazers from organisations trying it, testing it and going back with recommendations before you see the wave of people coming on. We're seeing that growing month on month, and I'd say over the last six months it has really accelerated. Particularly *Azure* – the training only launched three months ago, and it is already very big."

Combined Knowledge is said to be one of the UK's premier *SharePoint*, *Office* 365 and *Azure* training organisations. Has it experienced a change in its training audiences over the last 12 months?

"There is a big shift towards on-demand video training and a lot of customised training," claims account manager Kathryn Kiddie. "We now provide a product that we spent a lot of time developing called *Training*+. This is basically a selection of 72 HD on-demand videos."

Kiddie claims several councils, universities and blue chip companies are now using the method which has proved very successful. She adds: "There has been a big shift from your standard, sending someone on a four-day power end user course, to not having that time to do that now."

#### **ITaaS**

Walker mirrors Collins' view that IT has become ingrained into everyday business, and as such each employee must upskill themselves to be able to work with more technologies, even though we all have less time to learn. He likens IT departments to marketing departments."Marketing departments have to be relevant to sales,



"I think 'IT as a service' will actually help IT departments. But if they don't help themselves, then end users will go away and try and do things themselves."

Bill Walker, Technical director, QA and if they go away and do their own stuff then they're not helping anyone. IT has to be the same. IT departments are there to support the business, that's all they're there for. The Agile and DevOps movements are two very powerful things, and they are very connected which will actually help IT deliver more."

Some people believe that the IT department is dead and that the role of the IT manager will cease to exist in the coming years. But a more common perception is that IT managers' departments need to change and devolve more into the business rather than be seen as separate functions. As such, their roles will actually become more crucial as all successful organisations will need technology experts who understand the IT landscape and can marry their skills with the needs of the business. "They are there to support me in the business, and they need to be completely integrated into what I'm doing and to deliver things quickly," says Walker. "So I think 'IT as a service' will actually help IT departments.

"But if they don't help themselves, then end users will go away and try and do things themselves. And that's when companies will have real problems. They will have cyber problems, data breach problems, data protection problems... They'll have issues when someone leaves and where the system has been hacked together but no one knows about it. You end up in a right old mess."

Despite Walker's warning, it would appear that a new and somewhat silent revolution is currently underway. End users are slowly empowering themselves to actually do more IT independently, with less reliance on IT departments. Of course, traditional instructor-led, classroom-based training remains very much alive and well. As well as drawing new generations of learners, it continues to be frequented by the same types of individuals that have been acquiring knowledge in this way for the past 20 years.

However, there is an ever-increasing need for power user and end-user training. Networks continue to become more accessible, making IT services quicker and easier to adopt. This trend is ultimately creating a shift from IT-led initiatives that require huge investment upfront, to end user-based solutions that employees are building and subscribing to in a matter of minutes.

No longer is it just software and their solutions that installs themselves 'just in time'. Now, the pressure is on all of us to learn how to use all this technology 'just in time'.

# <text>

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#### off-the-shelf

#### off-the-shelf: UPS

# **Juice boxes**

We roundup of some the latest uninterruptible power supplies to help keep your network energised.

The PRS (Power Rack Solution) features AEG Power Solutions' Protect D.6000 or Protect D.10000 UPS model integrated into a rack, where IT equipment such as routers or servers can then be added.

The company says the system provides a ready-touse solution for a large range of power safety requirements from 6 to 20kVA.

Pre-defined solutions are available with individual or redundant versions, and the UPS can be set up in parallel operation with a parallel control panel. The battery system is integrated, and can be expanded to four units.

AEG says it developed the 

The Liebert GXT4 is the latest on-line, double conversion range of UPS devices from Emerson Network Power (ENP).

As the next-generation of the vendor's Liebert GXT3 family, the GXT4 range offers 700VA to 10kVA models at 230V. ENP claims their flexible rack-tower configuration and compact design enable easier and faster



plug and play PRS specifically for SMEs where a lack of space and in-house IT expertise are often issues. Ready for immediate use, the firm adds that the system requires just one supply line and its removable UPS connection simplifies maintenance.

According to AEG, units are assembled and tested in full compliance with VDE rules while setup is flexible, fitting various protection standards according to EN 50600-2-2 depending on individual requirements. The *PRS* can also be supplied with additional rack extension and pre-mounted distribution units.

installation while also allowing businesses to respond quickly to the changing requirements of the IT industry.

that a critical load is always supported by

a continuous flow of high-quality power.

The units are ENERGY STAR qualified, and are said to deliver resilient and efficient power protection, ensuring



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Additionally, ENP claims the advanced ECO mode feature available on all models maximises their energy efficiency levels, further reducing total cost of ownership and improving overall PUE.

All 700VA to 3000VA units include two pairs of individually configurable power socket systems. These enable IT managers to program and control various settings (including load shedding) which prioritise the most critical applications to allow a tailored load protection, maximising availability and efficiency. The power socket systems can also be set up to protect against any unauthorised use.

The Liebert GXT4 units feature a new, user-friendly, multi-language and intuitive LCD interface for easy access

Riello describes Multi Sentry as a "state-ofthe-art" UPS, and claims that it achieves the highest-possible level of on-line doubleconversion performance (VFI-SS-111) as defined within IEC EN 62040-3.

Multi Sentry models are available in various sizes ranging from 10kVA to 200kVA, all with a three-phase input and output. Riello reckons they represent some of the most efficient UPS available with a minimal impact on their environment and power sources.

The vendor says the units are easy to install, especially on sites where there is limited power capacity available, a standby generator, and potentially harmonic compatibility issues. It adds that the Multi Sentry also performs the role of a high-specification filter, protecting its power supply sources (mains or generator) from any harmonics and reactive power generated by the loads it is powering.

While it's not strictly a UPS. Schneider Electric's EcoBlade is a scalable energy storage system powered by Li-ion batteries and consists of blades the size of a 30-inch flat screen. Each blade weighs less than 25kg and contains a smart connected battery module that can be used in racks connected to grids, data centres, buildings or secondary electric power stations with much larger energy storage needs.

In premises equipped with, for example, solar energy converters from solar panels, the energy generated by an EcoBlade can be used for personal consumption or resale on a micro-grid. At the highest level, Schneider says the blades can be integrated into containers to provide multi-MWh and complementary energy management services for the entire grid.

The fully scalable system is said to be quick to implement and easy to maintain. Each EcoBlade is integrated into the wide ecosystem of Schneider's solutions 

As part of what it calls a "holistic approach to after sales service", UPS Systems is offering a remote monitoring system for standby power equipment.

It says *REMO* is "comprehensive" and constantly monitors equipment 24 hours a day, providing immediate notification of any faults via text and email. The Berkshire-based firm says its service team will analyse the data from any alert straight away, and organise for an engineer to be sent out to correct any faults if necessary.

As well as receiving fault alerts, users can instantly view the very latest information on a monitored UPS, generator or fuel cell by logging on to the REMO live server at any time.

Users also receive a monthly report which is analysed by its service team, with any potential issues flagged up to to data, according to ENP. The firm adds that combined with the oversight and management offered by its monitoring software (including the LIFE remote diagnostic and preventive monitoring service), users can take advantage of a variety of monitoring and configuration tools to allow preventive maintenance and manage operational performance.



Features include low input current distortion of less than three per cent, a high input power factor of 0.99, a power walk-in function to achieve progressive rectifier start-up, and delayed start-up on mains power supply return.

The devices also include Riello's Battery Care System. This is said to optimise battery performance, helping to extend the UPS' working life and ensuring that it can deliver its full-rated backup time

when called upon in an emergency

for electricity, relying in particular on its Struxureware software suite of cloud-based integrated service modules. The firm says the software collects and manages weather and operational data, optimising energy performance across the entire chain, from the generation source (such as solar panels or wind turbines) to deliver cost-effective energy storage and consumption.



help prevent any problems with systems before they arise.

The company adds that REMO servers are 'out of band' and don't rely on the internet or networking. They therefore continue to monitor equipment at all times, even when the local systems are not operational.



## Smartpipe to create new IT jobs in Wales

Smartpipe Solutions will create more than 40 highly skilled jobs in the IT sector, following the official opening of a new software and development research centre in Cwmbran, Wales.

The firm's new centre at Ty Coch was opened last month and is backed by investments worth £6m. This includes £1m business finance from the Welsh Government, £700,000 from Notion Capital, £500,000 from Finance Wales, and a further £4 million from private investors.

Smartpipe, which has its sales and marketing functions in London, has already recruited 13 new employees for the Welsh centre and is set to recruit more than 30 other IT engineering specialists this year. The firm says it opted for Wales because of its wealth of skilled resources.

Smartpipe claims its breakthrough technology enables network operators to monetise their rich customer data in real-time. After launching in 2014, the firm says its solution is already being deployed by major operators in Europe and the Middle East.

Smartpipe adds that it aims to expand further in the UK and enter new markets such as the US, India, Indonesia and China. It expects the hiring of a highly skilled product and technology team to play a key part in supporting its continued expansion plans.

# GICSR enhances cyber security with RESILIA

The Global Institute for Cybersecurity and Research (GICSR) is adopting RESILIA Cyber Resilience best practice and its certified training to help organisations better protect their critical infrastructure against cyber attacks.

Headquartered at NASA/Kennedy Space Centre in Florida, GICSR is a non-profit organisation linking critical infrastructure stakeholders to define and deliver scalable, flexible and adaptable cyber resilience solutions.

RESILIA was launched last year and is managed by AXELOS Global Best Practice, a joint venture between the UK Cabinet Office and Capita.

The RESILIA certified training and awareness learning portfolio aims to help build collaboration and best practice across organisations. It will be delivered via the GICSR Global Cyber Range and includes access to a virtual live network environment to apply theory to practice.

GICSR says its Global Cyber Range and RESILIA best practice have been designed to support and align with existing business and cyber security integration frameworks. These include NIST's Improving Critical Infrastructure Cybersecurity and National Cybersecurity Education frameworks.

GICSR believes strengthening cyber security resilience is a shared public/

Nick Wilding, AXELOS' head of RESILIA cyber resilience, says 90 per cent of attacks succeed because of human error.



private responsibility across all critical infrastructure stakeholder organisations.

Nick Wilding, head of RESILIA cyber resilience at AXELOS, adds: "Ninety per cent of cyber attacks succeed because of human error. People must therefore sit at the heart of effective cyber resilience which should focus on aligning strategic priorities, service management tools, operational systems and architectures together with ongoing training and involvement of all."

#### NEW COURSES

Citrix Certified Professional – Virtualisation – Firebrand Firebrand still has limited places left on its Citrix Certified Professional – Virtualisation (CCP-V) course that will be held in May. The four day accelerated programme prepares students for the CCP-V exam. It is suitable for architects, consultants and engineers, as well as those looking to become involved in such roles. Delegates must already have passed the *Citrix Certified Associate – Virtualisation* exam.

Participants will learn to deploy a complete Citrix hosted application and desktop virtualisation solution, compatible with *Windows Server 2012 R2*. They will get hands-on experience dealing with *XenApp* and *XenDesktop 7.6*, developing practical skills which they can apply in the real world.

By the end of the course, Firebrand says delegates will be ready to sit the 1Y0-301 – Deploying Citrix XenDesktop 7.6 Solutions exam which qualifies them for CCP-V certification.

Firebrand runs several training centres in the UK, and its course prices includes all accommodation, meals, courseware and exams. *http://tinyurl.com/gsxc7zk*  SANS London Spring – SANS Institute SANS Institute will host eight security training courses at the Grand Connaught Rooms in London next month. Many courses have an associated GIAC examination, and the institute says certification attempts are available at a reduced rate when bundled with training.

The eight courses include: Security Essentials Bootcamp Style; Hacker Tools, Techniques, Exploits and Incident Handling; Web App Penetration Testing and Ethical Hacking; Advanced Exploit Development for Penetration Testers; Advanced Digital Forensics and Incident Response; Memory Forensics In-depth; Auditing and Monitoring Networks, Perimeters and Systems; and the newly updated Network Penetration Testing and Ethical Hacking.

SANS London Spring runs from 29 February to 5 March. http://tinyurl.com/z54lt2







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