

# networking

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# Global data centre industry showing signs of “slow growth”

by Abdul Montaqim

The growth in the number of data centres and IT sites around the world has been minimal, according to a new report by 451 Research. But some of its findings have been dismissed by representatives from the UK industry.

In its *Voice of the Enterprise: Datacenters* study, 451 claims that the global data centre install base only grew at 0.2 per cent year-on-year in the third quarter of 2014. It says that the total number of data centres and IT sites now stands at 4.3 million worldwide (“IT sites” are defined as at least one floor of a building which has been adapted for servers and “data centre-like facilities” but is owned and used by one company).

North America and Europe declined one per cent and two per cent respectively, but

this was offset by increases in emerging markets such as Asia-Pacific, Latin America, and Middle East and Africa, which all grew at two per cent year-on-year, says 451.

Report author Daniel Harrington believes the weak demand for new facilities was driven by a decline in the enterprise market in mature markets.

However, this was offset by strong demand for large premium and hyperscale facilities from cloud, service providers and multi-tenant data centre vendors. Hyperscale data centres are those that are built specifically for large websites such as *Amazon*, *Facebook* and *Google*. 451 says this category has seen global growth of four per cent, while cloud and service providers have grown by 15 per cent.



**More facilities are actually being built in the UK, such as Virtus' recently launched London2 Data Centre pictured here.**

Enterprises account for more floor space than data centres, comprising some 83 per cent, while multi-tenant data centres and cloud providers control 12 and five per cent respectively. Harrington reckons that balance will change as enterprises become more comfortable using colo and third parties.

“Investment in new data centre space by traditional enterprises is being propped up only by the sheer force of growing organic demand for IT resources. Almost all the overarching market trends are working

against the need for enterprises to build out more of their own data centre space.”

Although 451's research is international in its scope, the firm points out that the UK market has been steady. Senior analyst Penny Jones says: “While there are some adopters in the innovative sense – financial service companies that deal with high street trading [for example] – we find that a large percentage of data centre users here are still very conservative.”

(continued on p2)

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## JDSU to split into two companies

JDSU plans to separate into two publicly traded companies: NSE and CCOP.

NSE (Network and Service Enablement) comprises JDSU's current Network Enablement, Service Enablement and Optical Security and Performance Products (OSP) segments. CCOP will be an optical components and commercial lasers company formed from the firm's Communications and Commercial Optical Products division.

Tom Waechter, JDSU's current president and CEO, will continue in this role with the standalone NSE which will provide instruments, software and services for the deployment and operation of next-generation networks. Its service enablement business will focus on software solutions that support the industry's transition to SDN and virtualisation. It will also include JDSU's OSP business which specialises in anti-counterfeiting solutions for currency

authentication and high-value optical components and instruments for security, safety, electronics and other applications.

Meanwhile, JDSU EVP Alan Lowe is the CEO-designate of CCOP. The new firm aims to be a global leader in optical components and subsystems for the telecoms market.

“Over the past five years, JDSU has invested heavily in innovation that is well aligned with the industry's best growth opportunities, including cloud networking, data centre expansion and software-defined networks,” said Waechter. “These opportunities extend beyond the traditional telecom ecosystem and now include web services, over-the-top, enterprise and other customers.”

“We believe two fundamentally focused companies best position us to stay ahead of the accelerating pace of technology change and to compete even more effectively across the unique markets we serve today.” ■



# Government plans to guarantee IT and utilities during business rescue

The Government is proceeding with plans to secure continuation of essential IT and utility supplies to failing but viable businesses while they are being rescued.

In early February, business minister Jo Swinson said providers of IT, water, gas, electricity and communications services will be prevented from cutting off supply or charging premium rates while insolvency practitioners seek a viable solution to rescue a business.

Under the plans, such suppliers will be guaranteed payment ahead of others owed money for services provided during the rescue period, and can ask for guarantees of payment

from the insolvency practitioner. The supplier can also apply to the court to terminate its contract on the grounds of 'hardship'.

"Rescuing struggling but viable businesses out of insolvency helps save jobs and improves the likelihood of payment to those owed money," said Swinson. "Continued IT and energy supplies are needed for businesses to continue trading while options are sought about their future. These changes will help struggling businesses during rescue while providing confidence for the suppliers that they will be paid for the essential services they provide."

The changes will be subject to Parliamentary scrutiny before coming into force in October 2015.

Giles Frampton, president of R3: Association of Business Recovery Professionals, welcomes the plans as "great news" for UK plc. He believes that without reliable and affordable IT and energy supply, attempts to save a business can be "stymied quickly".

"Over time, we would like to see more types of suppliers added to the list of those prevented from trying to steal a march on other creditors and take advantage of their importance to struggling businesses," said Frampton. ■

## "Slow growth" in DC industry

(continued from p1)

"We still see colocation companies growing who take innovative approaches to efficiency. It's only been last year we've seen that happen. Next year we'll see a bit more with Equinix's LD5 coming online in Slough from a colocation perspective."

But UK industry association the Data Centre Alliance (DCA) does not accept the view that the country has seen a slowdown, and remains bullish about the sector. "Growth in data volumes continues to drive growth in the data centre industry," says executive director Simon Campbell-Whyte. "Nothing suggests this will slow down – if anything, the reverse is more likely."

Another positive forecast comes from Thomas Standley, show director of *Cloud Expo Europe* which takes place in March: "We are seeing huge growth in our visitor registrations this year, for both our *Data Centre World* and *Cloud Expo Europe* events. We feel this is directly attributed to the growth in the UK data centre market and the take-up of cloud technology because, of course, the data centre is the umbilical cord to the cloud."

One example of growth in the UK is Virtus which recently opened its second data centre, London2, and is about to start building a third. "The data centre industry has experienced explosive growth globally in the last 10 years," says Neil Cresswell, CEO, Virtus Data Centres. "The UK is no exception, growing on average between 10 to 20 per cent per annum depending on the market." ■

## Data centres will offer real-world testbed for SDN

5NINES Global is launching two new data centres in Northern Ireland that will offer a testbed facility for SDN (software defined networking).

Working with SDN product specialist Sanctum Networks, 5NINES says it will deliver the region's first SDN-enabled, carrier-neutral test facility at its new data centres in Coleraine and Belfast. The facility will be made available to any company that wants to trial and test SDN in conjunction with its own network products and solutions.

5NINES Global spokesperson Justin Gilbert says: "Service providers, enterprises and system integrators from across the world who are looking at SDN now have the prime opportunity to do so in a



**An artist's drawing of 5NINES Coleraine data centre. The firm says the facility will offer 45,000ft² of technical space, high density solutions from 3.5KW to 25KW per rack, PUE of less than 1.15, and much more.**

state-of-the-art, highly secure, efficient and resilient new build data centre."

Sanctum Networks adds that it will help companies better understand the benefits

of its SDN offerings. "[We will be] actively demonstrating, under real-world conditions, how our powerful solutions can completely simplify the programmability of networks, as well as configuring and deploying applications across global networks with just a few clicks of a mouse," says CEO Paul O'Callaghan.

Construction of 5NINES first data centre will begin in April in Coleraine. The site will be adjacent to the University of Ulster and the Hibernia transatlantic landing station which provides ultra-fast links to the US and Europe, and will also benefit from diverse connections via the Saturn Ring in Ireland.

The firm expects its second centre in Belfast to be operational in early 2016. ■



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# Satellite technology to help connect UK's 'final five per cent'

Satellite-based broadband from SES will be used in a government-funded market test pilot (MTP) project in south-west England.

The Luxembourg-based satellite operator is working with UK ISP Satellite Internet to deliver its *Astra Connect for Communities* solution to Simonsbath and Luxborough in Exmoor National Park. The villages will benefit from a satellite distribution node and Wi-Fi head-end technology, giving around 400 residents internet speeds of up to 25Mbps.

A feasibility study for the project has already been carried out and the deployment in Luxborough started in January. Further installations in Somerset are due to take place later this year.

Satellite Internet was selected for the pilot by the Department for Culture, Media and Sport (DCMS) following its application for funding from BDUK's (Broadband Delivery UK) £10m Innovation Fund. The ISP has worked closely with *Connecting Devon and Somerset*, a public-private partnership of six local authorities set up to deliver next-generation broadband infrastructure to areas where commercial investment plans are absent.

Through BDUK programmes, the government says it is investing in infrastructure that will deliver superfast broadband (download speeds of at least 24Mbps) to 95



**Satellite Internet has been installing hardware in Luxborough since the start of the year.**

per cent of premises across the UK by 2017. In February 2015, it claimed that more than two million homes and businesses have now been reached and that they are growing at a weekly rate of 40,000 premises.

Eight MTP projects have started since last June. They aim to assess which technologies and commercial models are best suited to deliver superfast broadband to the final five per cent of UK households that currently do not have high-speed internet access.

As well as this latest MTP to test satellite in Exmoor, other projects include assessing hybrid fixed line/fixed wireless technologies, Wi-Fi, LTE, TV white spaces, fibre and sub-loop unbundling. ■

## CityFibre and Logicalis to provide PSN connectivity in Wales

CityFibre has teamed up with Logicalis to build a high-capacity resilient pure fibre ring in Newport, Wales' third-biggest city.

As part of a PSN, the two companies will develop a 'Community Safety Network' that will initially connect more than 50 sites in Newport. The fibre connection will be designed to accommodate the city's growing community safety estate as well as a broad range of applications. It will enable the local council to harness future smart technologies such as ultra-high definition CCTV, digital information boards, and traffic and alarm monitoring.

Newport City Council leader Bob Bright says the partnership between CityFibre



**Logicalis CTO Chris Gabriel says there's "huge potential" to transform Welsh cities by installing future-proof fibre networks.**

and Logicalis will provide a "step change" in the services that the metropolitan authority will be able to provide. "We are in a process of major transition in the city with substantial regeneration and redevelopment. Community Safety is an absolute priority for the city."



## THE WORLD ACCORDING TO...

Andrew Wild, chief information security officer, Lancopo

### What is the role of a CISO?

The role of the modern-day Chief Information Security Officer has evolved from being focused primarily on the implementation and management of security control technology (firewall, IDS, AV solutions, etc), to a consultative, business process aware, risk management professional.

This role change requires a risk-based approach which CISOs must adapt and embrace. Of course security controls are still important. But a critical component of implementing a successful risk-based approach is the building of strong relationships with the business units within an organisation, and approaching them in a consultative manner to offer assistance and guidance.

Whereas past CISOs were required to possess strong technical knowledge, today's CISO requires consensus building, influencing, and strong communication skills.

The risk-based approach should begin at the start of any effort, including information security risk as a consideration when solutions, products, and projects are in design, review and implementation.

Another important point about moving towards a risk-based approach for information security is determining who 'owns' the risk. Ideally, the business unit that owns the project, process, solution or product will own all of the identified risks associated with it. This is where the security chief's influence and consultative skills come into play; he or she will provide

guidance and direction about how the information security risks can be mitigated or reduced through the use of controls.

Some CISOs try to communicate with the board using information security terms, and often present detailed charts with metrics explaining the effectiveness of security controls. While that can be a component of the message, the real content should be focused on the risks themselves – not on the security controls.

Communicating with the board and C-suite about the risks is part of the transition mentioned above. Board level execs need to understand how well their organisation's risk management programme is functioning. Providing a chart that indicates how many malware incidents were identified and remediated over time may not be the right metric to share.

The migration from a security controls-based approach towards a risk-based approach can be a difficult transition. A step in this process may require the re-evaluation of all existing security controls to identify the risks the controls are designed to mitigate, and include evaluation of the control's effectiveness and cost efficiency compared against the potential loss exposure associated with the risk.

In the long run though, having the security controls mapped to the risks they are designed to mitigate can bring more transparency and understanding to the information security budget.

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Logicalis CTO Chris Gabriel adds: "There is huge potential to transform Welsh cities by installing future-proof fibre networks and support community-changing initiatives

such as this through the exploitation of [our] infrastructure. We see this project in Newport as the first step on a long-term partnership with CityFibre." ■

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## JMC is the “best IT firm to work for”

JMC IT has won the top three-star accolade from Best Companies for the fifth consecutive year, and has also been honoured as one of the *100 Best Small Companies to Work For in 2015* by the *Sunday Times* for the 11th year. Judges said JMC displayed “extraordinary” levels of employee engagement, with staff providing detailed anonymous survey feedback in categories including: personal job satisfaction; managers’ ability to care and motivate staff in fulfilling their potential; and overall excitement about the company’s future. JMC has more than 100 staff based at its Salford headquarters, and claims a record of 12-year average staff service and client relationships. MD Andrew Burgess says the accolade is recognition of his firm’s creation of a “virtuous circle whereby clients love our staff and love working with JMC”. ■

## Energy efficiency award for St Andrews

The University of St Andrews has retained the British Computing Society’s Gold award for its Butts Wynd Data Centre. The data centre opened in 2011, was built at a cost of £2.4 million, and runs entirely on energy from renewable sources. In giving its *Certified Energy Efficient Data Centre* award, the university was assessed by the BCS for its approach to energy-efficiency best practice across all areas of the data centre. This included: IT equipment; procurement and operational processes; cooling and power systems equipment; building control systems; and the monitoring and management of energy usage. ■

## King’s College picks Cornwall for IT centre

King’s Business Ltd, a not-for-profit company owned by King’s College London, has selected Quintrell Downs Business Park near Newquay as the location for its IT service centre. According to Invest in Cornwall, King’s Business’ move will bring new quality jobs and more than £1m into the country’s economy. Gavin Wright, director of IT services at King’s College, adds that Cornwall’s recent investment of £132m in fibre-optic broadband was one of the deciding factors. ■

# Restaurant chains lag behind independents in Wi-Fi stakes

If there’s one thing independent eateries have over big restaurant chains, it’s the quality of their public Wi-Fi. That’s according to research by Manchester-based web hosting company 34SP.com.

Its study looked at public Wi-Fi availability and quality at 100 commercial premises in northern England, including dozens of restaurants, bars and cafés. The research revealed that despite the big chains having far greater resources to spend on technology, independents offer 70 per cent higher download speeds, nine times higher upload speeds, and faster ping speeds.

The commercial premises with the best public Wi-Fi was The Bar in South Manchester. It recorded the fastest download speed (36.11mbps), the fastest upload speed (18.08mbps) and one of the lowest ping speeds (31ms).



**34SP.com co-founder Daniel Foster says the general public is “spoilt for choice” when it come to getting online.**

According to 34SP.com the “worst” public Wi-Fi belonged to the Manchester branches of Zizzi Ristorante and Travelodge. It found that connections at their venues did not work during its testing, but points out that this also means they could not be tested for speed or ping rates.

The average download speed surveyed for public Wi-Fi across chains (6.46Mbps) and independents (10.99Mbps) is said to be “substantially slower” than the average

UK download speed of 18.7Mbps for residential broadband. Many public Wi-Fi offerings are also slower than 4G which is accessible from the latest mobile devices in towns and cities, and even 3G. The average 4G download speed is 15.1Mbps while for 3G it is 6.1Mbps.

“If you want to quickly access the web on your mobile while out and about, steer well clear of big-name brands,” advises Daniel Foster, co-founder and technical director of 34SP.com. “Businesses that fail to offer good Wi-Fi speeds to their customers are missing out financially because these consumers typically spend lots of money on snacks and drinks while they surf.”

“When you consider how little it costs for businesses to set up public Wi-Fi, the investment effectively pays for itself within weeks.” ■

## 19th century college upgrades to 21st century tech

Historic public school Bradfield College has upgraded its Wi-Fi network with the deployment of 802.11ac technology throughout its extensive site in Berkshire.

The network will support up to 3,000 staff and student devices at the school. It is based on a gigabit system from Meru Networks which replaces an existing Aruba network that had “failed to deliver seamless coverage” across the school’s mix of traditional and modern facilities.

Trevor Benstock, director of IT services, Bradfield College, says: “Our previous Wi-Fi network caused some frustration with coverage dropping in and out depending on where you were in the school, and was particularly problematic

in some of our older buildings, which date back over 150 years and have solid walls.

“The number of devices connecting to the network was also causing us headaches, with staff and pupils using up to three devices each, often simultaneously. That’s potentially thousands of devices all logging on at once.”

Benstock’s team worked with Meru to install more than 200 of the vendor’s AP832 802.11ac access points throughout the site, with up to 10 APs in some buildings. All the devices are managed through two main controllers.

The new Wi-Fi network is also being used to support *Firefly*, the school’s Virtual Learning Environment. ■



**Coverage was unreliable with the college’s previous Aruba network, especially in some of its older buildings which date back over 150 years and have solid walls.**

## Essex selects Imerja to maintain end-user devices

Bolton-based IT solutions specialist Imerja has again been selected by Essex County Council to secure and maintain its end-user devices with a contract worth £160,000.

The council says IT security is paramount as the documents it stores are extremely confidential. Under the deal, Imerja is conducting a health check of the Essex’s IT systems and upgrading endpoint security on 9,000 devices to the



**Ian Jackson of Imerja says the company has developed a strong relationship with Essex County Council**

latest version of *CheckPoint* software.

This latest two-year agreement builds

on an existing relationship between the organisations, and is a renewal of Imerja’s previous contract to offer an ongoing proactive and reactive support service.

Ian Jackson, managing director and co-founder of Imerja says: “Working in partnership we have developed a strong relationship with Essex County Council and really understand the complexities of its IT system and the importance of securing the end-user devices.” ■

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<sup>1</sup>ITIC 2014 – 2015 Global Server Hardware, Server OS Reliability Report, May 2014.

<sup>2</sup>System x Servers ranked #1 in 1Q14 TBR Customer Satisfaction Survey.

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# Telstra launches global financial trading solution

Telstra has unveiled a high-performance electronic trading solution. The company claims *Global Financial Trading Solutions* is a reliable low latency trading network and “expert” service for managing server infrastructure in financial hubs, cloud and global unified communications.

Matthew Lempriere, Telstra’s head of financial services market segment, global enterprise and services, says the new *Global Financial Trading Solutions* network provides UK businesses with a scalable, flexible and on-demand ICT solution that will help them react to market events faster than ever.

“The need to comply with increasing global and domestic regulatory requirements, along with reduced volatility and margins, means financial institutions are turning their attention to

new and innovative ways to reduce costs and gain access to new pools of liquidity and trading partners.

“Backed by faster response times and higher scalability, Telstra’s *Global Financial Trading Solutions* facilitates increased efficiencies, helping customers mitigate risk and address compliance concerns, while focusing on what’s most important to them – driving revenue and sustainable business growth.”

Telstra says its platform provides low-latency connectivity between major financial capitals including London, Chicago, New York, Tokyo, Hong Kong, Singapore and Sydney. It also offers a variety of managed services that include: hosting for server infrastructure located at high-density data centres; a low latency, high throughput electronic trading technology platform; a cloud-based financial application services



**Matthew Lempriere** says financial services companies will find Telstra’s new solution faster and more scalable.

environment; and a global UC platform that integrates VoIP and collaboration technologies for traders.

Lempriere says that by colocating core trading infrastructure inside the exchange or at high-density data centres connected via low latency networks, Telstra’s *Global Financial Trading Solution* helps reduce IT complexity and the time it takes to complete each trade.

“With lower trading times and faster access to market data, our UK customers are in a better position to capitalise on arbitrage opportunities and increase their profitability at the same time.”

Telstra is an Australia-based telecoms and information services provider offering a wide portfolio of products and technologies ranging from mobile and wireline services to enterprise connectivity and cloud-based platforms. It has licenses internationally and facilitates access to more than 2,000 PoPs in 230 countries and territories.

The company has been ramping up its global operations over the last few months. For example, towards the end of last year, it announced it would be working with IT consultancy firm Advanced 365 to offer UK SMEs cloud platforms at “affordable prices” (see *News*, Dec 2014). ■

## Advantex pulls cloud-based telephony business with new brewery

Advantex Network Solutions says it has significantly increased its business with the signing of a new deal to deploy a VoIP system at a brewery.

The Gateshead-based ICT solutions provider has been contracted to supply, install and support The Fat Brewer Company – a newly formed pub, hospitality training and brewing group – with an entire cloud-based telephone system.

Advantex says The Fat Brewer will benefit from the ability to make free inter-department calls and significantly reduce costs in line rentals and external calls.

It will also enable new extensions to be added quickly in the future.

Advantex would not reveal how much the deal was worth, but said that it ran into five figures. It believes this latest order means that the cloud-based telephony side of its business is in “full bloom” and that it is likely to score many more similar contracts.

Head of communications Andy Shannon says: “Our ability to provide the data circuits and IT hardware – from PoE switches to routers, backed up by onsite services and a large portfolio of SIP, IP, voice and UC

endpoints – puts us in a strong position to win these types of deals.”

According to Shannon, Advantex is finding that many customers don’t get the right advice when it comes to the fundamentals of building a hosted solution on to the right foundations. He says: “We look at it from every level, from site surveys, project management and after-sales, to making sure our customers get the best from their hosted telecoms.”

He adds that telephony is currently responsible for around 25 per cent of Advantex’s turnover of roughly £1m. ■



The Fat Brewer can call time on huge phone bills, now that Advantex has been contracted to organise an IP system at a brewery. ■

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## Purple Wi-Fi and Molson partner for hotspot-driven CRM system

Purple WiFi is partnering with one of the UK’s largest brewers to create the *Molson Coors Cloud*.

The company, which specialises in developing guest Wi-Fi hotspot software, is currently conducting a trial of the new system at 20 venues throughout the UK where Molson Coors brands are stocked.

The trial has been set up using TP-LINK wireless equipment running custom Purple Wi-Fi firmware which enables remote management using a web-interface.

A secure, gated access point has been deployed at each venue to offer free Wi-Fi to customers. They can access the service by either completing a short form or using their chosen social media account. When accessing via social media, the venue can ask for a Facebook ‘Like’ or a Twitter ‘Follow’ and gain the opportunity to engage via social media or email.

Each user must agree to have their personal details collected during the login process. Purple WiFi says this information is stored securely in the *MolsonCoorsCloud.com* portal and can be used by the venue to view insights and analytics about their customers.

The Wi-Fi network also enables pub licensees to interact with their customers directly in order to build loyalty and promote relevant information and offers. They can use the *Molson Coors Cloud* to for social media engagement, data collection, and ROI from additional food and beverage sales.

Molson Coors will trial the system across its test venues for six months. If they are successful and deliver a clear analysis of the benefits of using the portal, the company will look a rolling out the service to all outlets across the UK. ■

## Securus grows its WAN using C4L

WAN specialist Securus Communications says it has achieved “significant business wins in 2015 already” as a result of its partnership with colocation and connectivity provider C4L.

Securus has been utilising C4L’s technology, including IP transit, to provide customers with multiple access routes to their cloud infrastructures. This has enabled them to maintain 100 per cent service-level agreements, according to the company.

The firm says its customers view access to the cloud as being of critical importance, and has designed what it calls

“a triple resilience solution” for cloud platforms by using fibre, copper and 4G cellular technologies.

Moreover, Securus plans to utilise C4L’s *coreTX* network to expand further. It also requires international solutions for its operations in France and Germany, and these will also be supported by C4L.

Brett Rowe, managing director of Securus, says: “We took an extensive and analytic route on who to use as our provider. We were not seeking the cheapest one-off solution; instead we focused on a long-term business relationship. ■



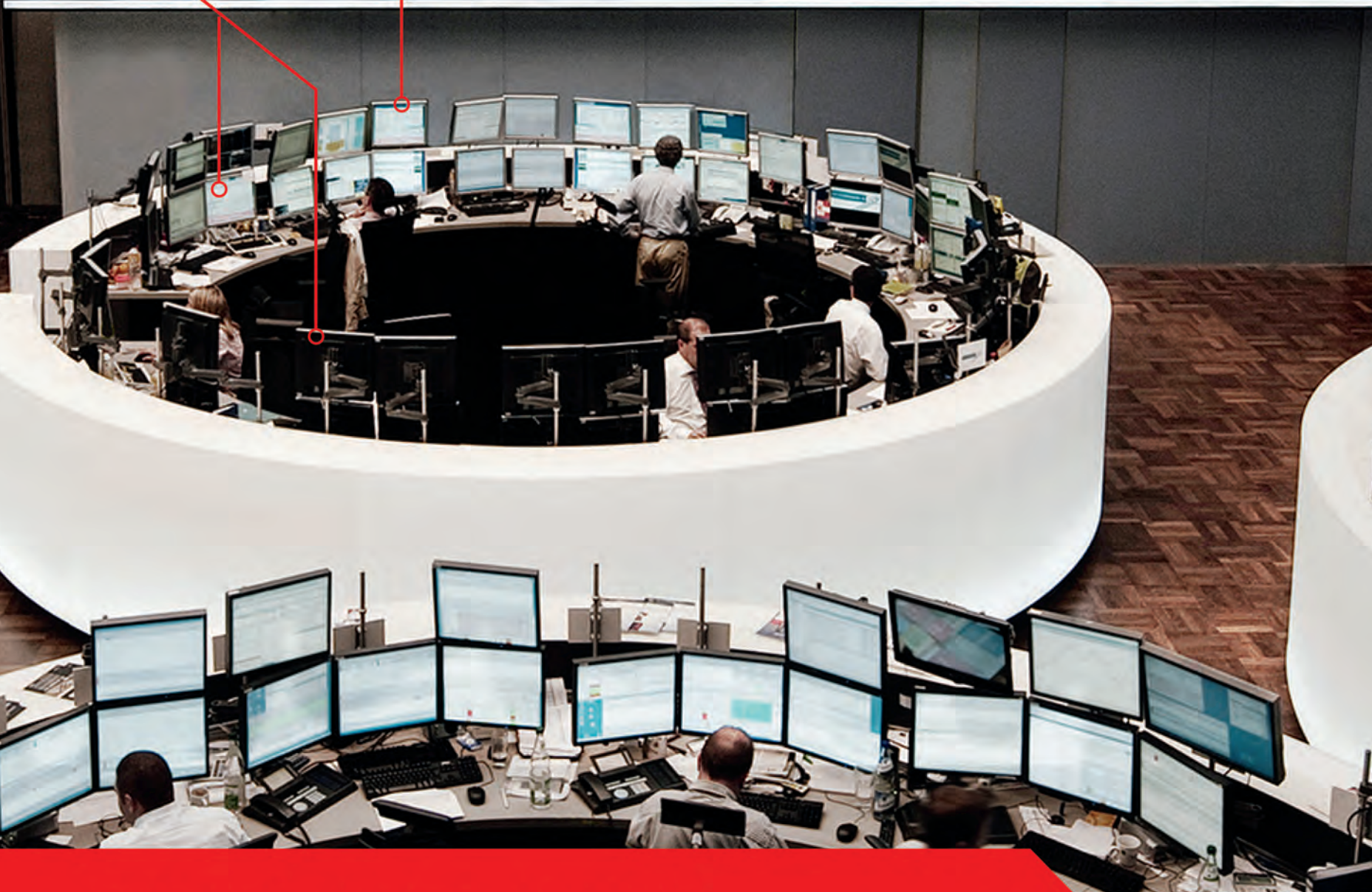


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32,580	32,180	32,905	31,795	32,905	+	0.3251	113	23,190	22,400	25,250	22,220	25,205	+	2.0151	258
103,900	102,500	104,350	100,760	104,350	+	0.4501	81	9,620	9,560	10,155	9,330	9,811	+	0.1911	30
41,980	41,405	42,760	41,295	42,760	+	0.7801	9								
23,050	22,705	23,645	22,030	23,575	+	0.5251	23	39,285	38,965	40,045	38,450	40,045	+	0.7601	16
17,515	17,375	18,200	17,325	18,200	+	0.6851	6	25,165	25,055	25,660	25,055	25,365	+	0.2001	3
93,520	92,400	92,890	90,680	92,890	-	0.6301	15	4,050	4,065	4,174	4,030	4,162	+	0.1121	14
								39,650	39,745	39,745	39,300	39,300	-	0.3501	3
9,182	9,150	9,323	8,997	9,311	+	0.1291	43	2,490	2,474	2,560	2,430	2,530	+	0.0401	10
19,840	19,880	20,025	19,880	20,025	+	0.1851	2	32,580	32,180	32,905	31,795	52,110	+	0.3251	113
9,316	9,325	9,730	9,129	9,717	+	0.4011	50	51,580	102,500	50,470	101,110	132,950	+	0.4501	81
3,694	3,669	3,747	3,640	3,729	+	0.0351	7	41,980	32,905	42,760	32,905	104,760	+	0.7801	9
40,560	40,335	41,620	40,190	41,620	+	1.0601	4	102,500	22,705	100,760	104,350	23,575	+	0.5251	23
								17,515	42,760	18,200	17,325	23,575	+	0.6851	6
59,100	58,500	65,040	57,450	65,040	+	5.9401	133	22,705	92,400	22,890	23,580	18,290	-	0.6301	15
81,040	79,320	84,420	78,600	84,420	+	3.3801	42								
30,090	29,880	31,905	29,430	31,905	+	1.8151	15								



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# Get well connected soon

**The National Health Service now offers Wi-Fi in most hospitals, partly for the patients and partly for the staff. Here, we look at three examples and how they are utilised.**

## Spark plugs Wi-Fi gap for Welsh health board

About two-thirds of NHS Trusts across the country have installed Wi-Fi platforms – 64 per cent, according to an Enterasys Networks survey a couple of years ago. But since then, more NHS Trusts have hooked up their hospital LANs to the internet using Wi-Fi.

One of them is the Betsi Cadwaladr University Health Board (BCUHB) in Wales (Health Boards are the Welsh equivalent of NHS Trusts in England).

The BCUHB had been utilising a hotchpotch of Wi-Fi solutions at the three main hospitals in its area, as its data communications manager David Slocombe explains: “The service was not widely available to the public, although limited access was provided in certain

hospital areas. It was a mixed offering. For instance, Bangor Hospital had an in-house solution which used a Microsoft IIS proxy server and wireless access points; Glan Clwyd Hospital had a managed internet service using DSL modems and DSLAM technology; Wrexham Maelor hospital was provided with a residential broadband solution using wireless access points to undergraduate student residential areas only. Three different systems each with their own challenges. We therefore needed a new Wi-Fi strategy.”

A tender process followed and was duly won by Wi-Fi Spark which provides tailored solutions to suit each NHS Trust's requirements.

As with any specialist sector, Wi-Fi Spark says healthcare has very specific needs and demands. The Exeter-based firm offers managed solutions which can be monitored and controlled through its Spark platform which includes the Gateway component that enables bandwidth and traffic shaping.

Wi-Fi Spark adds that its access points contain twin radio antennas and support 802.11ac technology, while their single SSID broadcasting allows devices to roam a hospital's entire grounds without needing to disconnect and search for the strongest signal.



In addition, user experience portals can be created using the clients' branding. Adam Johnson, E-Communications manager at BCUHB, says: “Having the new Wi-Fi Spark system in place has enabled us to improve patient comfort for those coming into our hospitals for outpatient appointments and in-patient stays on the wards.

“It's helped to give our patients stronger abilities to communicate directly with friends and loved ones by using email and social media channels – something they would have struggled to do before.”

Johnson says one touching example of this is how a patient was unable to make it to their son's graduation in person due to their hospital stay, but who instead was able to watch it live on a tablet from his ward thanks to the Wi-Fi service.

CIC's network as a result of switching to Ipswitch. Connection issues can be resolved more quickly – whereas in the past a member of the IT team would often have to go off-site to identify and resolve problems, now that is no longer necessary. “They appreciate how much staff time they save,” says Nawaz.

CIC estimates diagnostic time has been cut from 40 minutes under the old IT system to five minutes using the new system.



## CIC uses Ipswitch for network management

Community Integrated Care (CIC) is a health and social care charity that helps and supports thousands of people who have learning disabilities, mental health concerns, autism, and age-related needs to live more independent lives.

CIC has grown rapidly in recent years, and now employs more than 5,000 staff across England and Scotland. It has issued 250 mobiles to its staff, and has a well-established BYOD policy. All of this has put an enormous strain on the network.

The charity operates from a number of disparate settings such as people's homes as well as its own offices. It's therefore essential that staff are able to work online while being mobile at the same time.

However, CIC's network and connectivity was anything but constant and reliable. Staff attempts to go through the diagnostic process often resulted in long delays caused by the network being unable to handle user access issues.

As a result, and in an effort to improve the IT infrastructure, CIC discussed its options with its IT supplier, NetDef. After conducting 30-day trials for products from four different vendors, it eventually selected Ipswitch's *WhatsUp Gold Premium*. Tom Mather, business development manager at NetDef, says: “The installation went quickly and smoothly; monitoring could begin immediately after installation.”

*WhatsUp Gold* enables traffic identification and analysis, verifies Quality of Service through ToS, DSCP for the LAN/WAN, or Top NBAR and CBQoS reports.

Arif Nawaz, IT services manager at Community Integrated Care, says he has seen “substantial improvements” in

## Specialist healthcare needs rich media functionality

St Andrews is a national teaching hospital housed across four sites in the UK, while St Andrews Healthcare provides treatments for mental health, learning disability, autism, brain injury, et al.

The institution needed a reliable IT infrastructure linking all its UK hospitals. It also needed high network availability and excellent access to business critical systems and applications.

St Andrews decided to bring in Contact Healthcare, a specialist provider of cloud-enabled healthcare applications. The firm carried out an audit and proposed a new infrastructure to replace the existing separate voice and data networks.

It deployed a Motorola-based digital platform with data collection, integration, analytics and administration at its core. The network is capable of supporting converged solutions such as VoIP and high-speed data access allowing key patient benefits, including IPTV, IP CCTV and video conferencing.

IPTV enables St Andrews to deliver television to patient rooms and lounge areas. Content can be tailored to a specific patient or groups of patients, allowing the healthcare provider to monitor and manage patient behaviour.

The IP CCTV system delivers live camera feeds to tablet devices, freeing security teams from their desks without disconnecting them from their operations centre when on patrol. All footage is collected on servers and can be utilised to trend behavioural and movement patterns in and around the sites.

Video conferencing facilities enable direct and secure video links to the Ministry of Justice, courts and legal system network, which saves time and money when patient re-assessments are discussed at high levels.

The video conferencing function also allows patients to hold secure video calls to friends and families over the internet.

The newly installed Wi-Fi solves several immediate needs, such as locating staff and security, and can be modified at a later stage.





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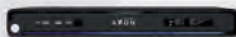


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# Delivering clean and reliable power



*Double-conversion UPS devices, such as the Eaton 93PM shown here, ensure clean and reliable load power irrespective of mains quality.*

The switch to renewable energy sources and the closure of older power plants will lead to poorer quality power supply. This presents challenges to designers of IT power systems. JORGE AGUINAGA looks at the technology being developed to help overcome them.

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**A**lmost every aspect of industry and commerce today is critically dependent on having continuous access to IT resources. But this uninterrupted access can only be assured if those resources receive electrical power that is reliable and free from disturbances.

In itself this is nothing new. But there is a fresh challenge facing designers of power systems for IT applications: the quality of power provided by the public supply network is likely to deteriorate, at least for a time, as the transition is made to renewable energy sources and older power plants are shut down because they do not meet current environmental standards.

The supply network was designed to receive power from a relatively small number of large generating plants that had very predictable outputs. Now the network is being asked to receive power from a large number of smaller energy sources with much less predictable outputs.

It is simply not possible to reconfigure the network overnight to cope fully with such an enormous change. But until this work is complete, which may be many years, supply quality is likely to be compromised, with voltage and frequency variations much more common than they were in the past.

This means that there is now a greater need for ways of safeguarding the supply of power to key assets in order to ensure business continuity. In critical applications, this most often takes the form of an uninterruptible power supply.

## Resiliency vs. efficiency

The UPS must make sure that at any given time the load receives clean and reliable power regardless of the condition of the mains supply. It must protect the load against many types of power quality problem, including not just long- and short-term supply interruptions, but also frequency and voltage variations, transient voltages, harmonic distortion, and more.

Advances in technology and the growing 'digitalisation' of the world mean that many more IT applications must now be considered critical.

At the same time, environmental concerns have been increasing along with the cost of power. This leaves

UPS users with difficult choices to make about achieving the right balance between resiliency and efficiency, as it has traditionally been considered that it is necessary to make sacrifices in one of these areas to make gains in the other.

UPS manufacturers are now addressing this conundrum. The latest products combine lowest total cost of ownership, achieved by providing new standards in efficiency and superior scalability features, with exceptional resiliency supported by innovative technology and design.

One way this is being done is by using double-conversion topology. This means that the incoming power is processed in two-stages: from AC to DC via a rectifier; and from DC to AC power to the load. Double-conversion UPSs are acknowledged as providing the best possible protection for loads as they ensure clean and reliable power to load irrespective of the quality of the mains supply.

In the past, double-conversion was considered to have a potential short-coming: its two power conversion stages both contribute losses meaning efficiency had to be sacrificed in favour of protection. But thanks to two recent technological advances this is no longer an issue.

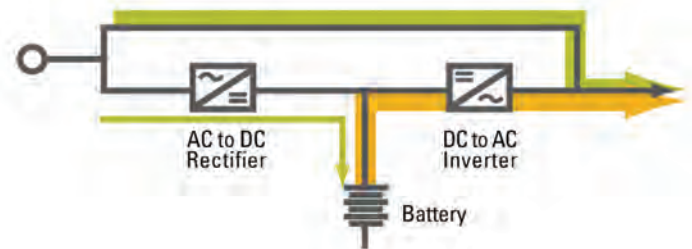
The first of these is the development of novel high-efficiency power converters based on the latest IGBT (insulated-gate bipolar transistor) technologies. This has enabled the overall efficiency of the latest UPSs to be raised to an exceptional 97 per cent when operating in double-conversion mode.

The second development is a new energy saving technology based on powerful algorithms that allow the UPS to operate on a 'double-conversion on-demand' basis, determined by the quality of incoming mains.

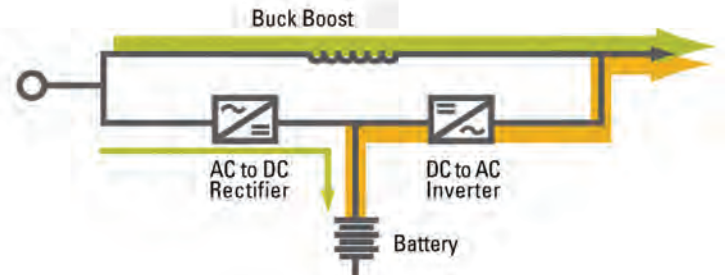
In the best examples, the transition between energy saving mode and double-conversion mode is seamless and extremely fast (less than 2ms), and is therefore invisible for the load.

As a result of these developments, users can benefit from the unmatched security and quality of supply that only double-conversion UPSs can provide, while also enjoying reduced energy bills, which will ultimately provide big savings in TCO. A further benefit is that the high efficiency of

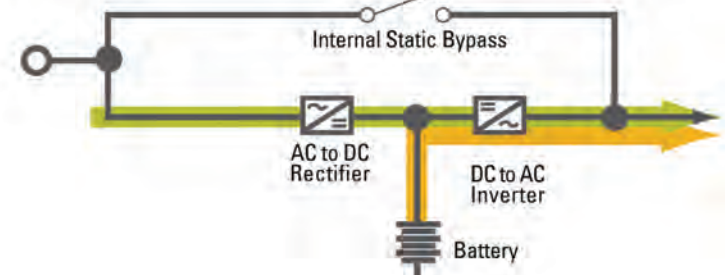
## UPS TOPOLOGIES



**Passive standby topology (offline)** is used for protecting PCs against power failure, power sag and power surge. In normal mode, the UPS supplies power to the application directly from the mains, filtered but without active conversion. The battery is charged from the mains. In the event of a power cut or fluctuation, the UPS delivers stable power from the battery. This topology is low cost and provides sufficient protection for office environments. Passive standby topology is not suitable in cases where the power supply is of low quality (for example, on industrial sites) or subject to frequent disruptions.



**Line interactive topology** is used for protecting enterprise network and IT applications against power failure, power sag, power surge, under-voltage and over-voltage. In normal mode, the device is controlled by a microprocessor that monitors the quality of the supply and reacts to fluctuations. A voltage compensation circuit is enabled to boost or reduce the supply voltage in order to compensate for fluctuations. The main advantage of line-interactive topology is that it enables compensation for under- and over-voltage without using the batteries.



**Double-conversion topology (online)** is a basis for UPSs designed for continuous power protection of critical equipment against nine of the common power problems. It ensures a consistent quality of power supply regardless of disturbances in the incoming mains. The output voltage is entirely regenerated by a sequence of AC to DC conversion followed by DC to AC conversion in order to create power supply without any electrical interference. Double-conversion UPSs can be used with any type of equipment as there are no transients when changing over to battery power.



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such UPSs means that they generate less heat, so users also save on cooling costs.

Other key features offered by the latest UPSs include paralleling technology and battery management. Paralleling allows more UPSs to be added to an existing installation as user requirements grow, providing convenient and cost-effective scalability without any risk of

compromising resilience or reliability. Battery management extends battery life by as much as 50 per cent by charging batteries only when they need it rather than continuously float charging them.

## Power management

Another area which has seen developments recently is the power management software available with the UPS. Key things to look out for here are whether the software is fully compatible with all major operating systems and all popular virtualisation software, therefore enabling the UPS to be easily integrated into almost any IT environment.

Power management software will ensure monitoring and managing UPS installations is convenient and straightforward, with users made instantly aware of any changes in power status.

The most advanced examples of power management software can also arrange for these status changes to trigger automatic actions, such as the transfer of VMs from physical servers where mains power is no longer available to others where the mains supply is secure. This is another important aid to security and resilience.

The digitalisation of the world combined with an increased mix of renewables is increasing the need for clean and reliable power. This, combined with the ever-increasing quest to develop cost-effective solutions and reduce environmental impact, is creating challenges never seen before in UPS systems.

Thankfully, there are now a number of advancements in UPS technology which enables the design of power systems for IT applications to be adapted to meet these challenges accordingly. ■



**“There is now a greater need for ways of safeguarding the supply of power to key assets in order to ensure business continuity.”**

Jorge Aguinaga,  
Manager,  
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## Eco-mode: the benefits and risks of operating UPS systems with energy-saving modes

Neil Rasmussen, SVP of innovation, Schneider Electric



Eco-mode is very similar to the basic mode of operation used in an offline UPS where it is called 'standby' or 'line interactive' mode.

In these traditionally smaller, single-phase UPSs, the inverter/rectifier circuits are 'offline' or are not part of the normal power path. In normal operation therefore, the load is exposed to essentially raw mains power from the utility. This mode of operation is similar to what occurs with a double-conversion online UPS that is operating in traditional eco-mode.

All large double-conversion online UPSs are equipped with a 'static bypass' path that provides multiple features including acting as a source of redundancy for the power inverter.

There are two main paths that can supply the load, the online (double-conversion) path and the bypass path. Note that the load is connected to the raw, unconditioned mains power when the bypass is active (in this context, 'raw power' has the same voltage, waveform, frequency, grounding system and impedance as the mains). The following table shows when each path is used in both online and eco-mode operation:

	Online mode	Eco-mode	Comment
Normal operation	Rectifier/Inverter	Bypass	Eco-mode exposes the load to raw mains
During a power disturbance	Inverter	Inverter	Online mode requires no path change during power disturbances
During a fault condition	Bypass	Bypass	Extremely rare event

Note in online operation, the UPS uses the bypass path only when there is a fault. In the life of the UPS, this is an infrequent event and may actually never happen. Therefore in online mode, the critical load is not subject to power disturbances, even during a mains power problem. In eco-mode, any mains power abnormality causes the UPS to switch power paths between bypass and inverter.

In online mode, the UPS continuously regenerates the output voltage. In eco-mode the load is normally powered by the bypass path, allowing raw mains power to supply the load, and the UPS inverter is engaged only when the utility mains fails. So in eco-mode the UPS inverter operates in 'standby' and in principle, this is just a simple change in the control software of the UPS.

The benefit of eco-mode is that the efficiency of the bypass path is typically between 98-99 per cent, compared to the base UPS efficiency of 94-97 per cent. This means there is a pickup in UPS efficiency of between 2-5 per cent in UPS efficiency when eco-mode is used.

Eco-mode will save energy, although the amount saved is surprisingly small. In addition, the energy saved comes at some reduction in electrical protection and reliability. This penalty will vary depending on the design of the electrical architecture such as in a data centre and on the UPS vendor's specific design approach used in implementing eco-mode functionality.

The cost of eco-mode is that the IT load is exposed to raw utility mains

power without the conditioning normally provided by the double-conversion, online UPS. The UPS must continuously monitor the mains power and quickly switch to the UPS inverter when a problem is detected, and before the problem can affect the critical load.

This may sound simple but it is actually quite complicated as eco-mode entails a number of risks. It introduces a number of new modes of operation of the data centre, and reduces power protection. Complex systems comprised of a mix of IT equipment, transformers, transfer switches, and other possible non-IT loads are less predictable in their response to infrequent and unusual power events, and their compatibility with eco-mode is less certain.

It is important to note that different vendors implement eco-mode differently: there are variations in the way the system operates the standby inverter and in the way the mode is enabled, and where it will revert to normal UPS mode under various conditions.

Some firms claim to have special patented ways to control their transfer switch. But they all have the same basic concept of exposing the critical load to unconditioned power and transfer events in return for a small percentage gain in efficiency.

While advanced eco-mode offers

advantages over standard mode, it does come with a trade-off. Since the inverter circuit is 'on' in advanced mode, overall UPS efficiency is less than it would be if it operated in standard mode. However the difference is small, having been observed to be typically in the 0.5-1.0 per cent range. So while advanced eco-mode efficiency is less than standard eco-mode, it is still better than traditional online mode.

Eco-mode represents a potential way to save energy in UPS applications, and data centre operators can expect to see savings of around 2-3 per cent in total energy if it is enabled. Higher per cent savings are possible if the data centre is operated at very light electrical loads.

But the energy savings associated with eco-mode are getting smaller as newer generation UPS systems improve in efficiency. The advent of advanced eco-mode has significantly reduced the (already rare) risks but has done so at only a small cost in efficiency compared to standard eco-mode.

The operation of eco-mode is like the hand-off of a baton in a relay race. It is critical that it works correctly, as each hand-off is a little different and, on very rare occasions, there may be a problem.

For this reason, eco-mode should be used in situations where the number of hand-offs are as few as possible, e.g. where power quality is excellent. ■

*This is an edited version of a white paper first published by Schneider Electric at [www.schneider-electric.com](http://www.schneider-electric.com) in August 2014. Neil Rasmussen has since retired.*



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## off-the-shelf: access points &amp; routers

## Access all areas

Some of the latest APs and enterprise class Wi-Fi routers to help you extend wireless connectivity across the campus.

**Belden** recently released the *Magnum 10RX* router and security appliance as part of the next generation of its *GarrettCom* industrial networking OS and hardware design. It says the new product offers improved performance, security and advanced firewall protection, as well as maximum versatility by supporting a range of networking protocols.

For industrial settings where reliability, flexibility and secure systems are critical, Belden reckons that the *Magnum 10RX* delivers a solution that is fully customisable and simplified with performance and security in one product. It says that through a combination of routing capabilities with firewall protection and secure VPNs, it provides WAN connectivity and security functions needed for highly reliable communication between mission-critical network devices.



Key features include: protocol routing for legacy networks, as well as current IP routing technologies; cyber security capabilities, including built-in firewall protection and VPN security; and support for other networking applications, including general Ethernet switching and serial terminal connectivity for non-Ethernet installations.

The *Magnum 10RX* also has an optional dual hot-swappable power supply feature. According to Belden, power supplies are typically one of the weakest links affecting the reliability of a system. But with the *10RX*, it says that a failed power supply doesn't force a system to shut down. "Not only can the system continue to operate on a secondary power unit, the primary power supply can be replaced while the system is running," says the firm.

The *Vigor AP-900* access point from **DrayTek** can operate at 2.4GHz as well as less congested 5GHz frequencies. It operates both bands at the same time, and each has its own bandwidth so overall wireless capacity is also increased.

DrayTek says the AP offers the full range of extended domestic 5GHz channels thanks to its support for DFS/TPC. It says users can select all 5GHz channels up to channel 140, as opposed to just the four 'Band A-Lower' channels which provide

only two non-overlapping channels.

The *AP-900* has five wired GbE ports separated into two distinct LANs. LAN A and LAN B can be fed separately and in turn broadcast on independent and isolated SSIDs. The company says the four ports on LAN A are of particular use if the *AP-900* is deployed as a wireless bridge where wired PCs or devices can be connected to it. LAN Port 1 on LAN-A is also used if powering the device via PoE.

The AP can operate in stand-alone autonomous mode but can also form part of a centrally managed wireless installation by adding a compatible DrayTek wireless controller (such as a *Vigor2860* or 2925). This enables users to centrally control, manage



and administer multiple *AP-900*s installed around the campus. The firm says management also enables efficient usage of the wireless APs through load-balancing.

Security features include encryption using WEP, WPA, WPA2 (802.11i), as well as a MAC-based Access Control List (ACL) to specify the addresses of clients that are permitted to connect. Any unauthorised hardware is refused access.

For additional user authentication, 802.1x RADIUS can be activated to enable the central management and storage of user names and passwords either within the *AP-900* setup itself (thus not needing any external server) or on an external RADIUS server which can permit time limited access as required.

**Linksys** has unveiled its new *Pro Series* APs with the launch of the Wireless-AC dual band *LAPAC1750PRO*.

The new AP is equipped with two GbE ports including one especially built for link aggregation. Linksys says this enables the combination of multiple network connections to provide a 2Gbps backbone which helps increase throughput, and also provides redundancy in case one of the connections fail.

It also supports clustering to simplify management of multiple APs in a network. According to the company, a cluster provides a single point of administration for up to 16 APs and lets administrators view, deploy, configure, and secure the wireless

network as a single entity rather than a series of separate wireless devices.

The *LAPAC1750PRO* features 802.11ac technology which is said to provide a performance increase of up to three times that available on 802.11n. Enhancements such as wider 80MHz channels provide greater data bandwidth while operating at 5GHz band. Linksys says the *LAPAC1750PRO* can deliver data rates up to 1750Mbps.

It adds that the new AP includes enterprise class security features such as WPA/WPA2, 802.1X Supplicant

Authentication (which verifies that an AP is trusted on the network and can restrict rogue APs from gaining access), MAC-based ACL, SSID-to-VLAN mapping, and wireless scheduler.



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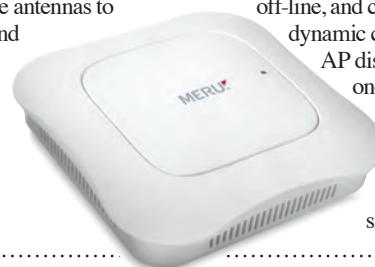
The *XPress Cloud XP8i* is a cloud managed AP with enterprise-class capability, according to **Meru Networks**.

The 802.11ac AP can simultaneously operate at 2.4GHz and 5GHz. Meru claims it delivers an aggregate data rate up to 1.2Gbps thanks to support for two spatial streams.

Each radio uses multiple antennas to simultaneously transmit and receive packets over a single channel. Meru says support for 2:2 MIMO means improved link quality, reliability and network throughput. Furthermore, clustering

technology automates WLAN provisioning with *XP8i* APs sharing configuration settings. Once a "master" AP is set-up via Meru's *XPress Cloud* GUI, it automatically pushes the configuration to all the APs in the cluster. The firm claims there is no single point of failure in case an AP goes off-line, and clustering also provides

dynamic channel selection. If an AP discovers interference on one channel, it automatically adjusts itself to a better one. Alternatively, APs will adjust transmit-power settings to boost signals in weak areas.



**Ruckus Wireless** has expanded its range of *ZoneFlex* APs and now claims its range offers the industry's lightest and smallest outdoor 802.11ac access points.

The new lineup includes four new models: the *R500* and *R600* indoor APs, and the *T300e* and *T301s* for outdoor applications.

The *R500* is designed to deliver wireless connectivity in medium density wireless networks, while the *R600* is said to deliver even higher performance with an additional MIMO spatial stream. Ruckus says the latter is ideal for medium to high client density deployments such as enterprises, branch offices and retail locations, especially those serving three-spatial stream clients. Both are dual band (2.4GHz and 5GHz) and support 802.11ac and PoE (802.3af).

The *T300* and *T301s* are claimed to be significantly lighter than other outdoor 802.11ac APs, and weigh 2lbs and 2.1lbs (0.9kg and 1kg) respectively. They're also said to be among the smallest – total dimensions including internal

antennas are 15 x 18 x 8.6cm for the *T300e*, and 19.5 x 23.9 x 11cm for the *T301s*.

The *T301s* is a 120° sectorised beam model with an adaptive antenna, while the *T300e* is omnidirectional and includes support for optional external 5GHz antennas. The latter includes all of the features of the *T300*, plus the ability to attach a wide variety of external 5GHz antennas for great deployment flexibility. According to Ruckus, it's ideal for mounting on poles, street corners, and rooftops, and in situations where the AP is remote from antennas or where the AP requires custom engineered RF coverage.

All four units integrate Ruckus' patented *BeamFlex+* technology for optimal performance and interference mitigation in challenging RF environments. They also use the firm's *ChannelFly* dynamic channel management technology for predictive channel selection based on real-time analysis of all RF channel capacity.





## Cyber security for charities

Give01Day has joined forces with the IASME Consortium to bring the government's new Cyber Essentials certification (see *New Courses below*) to all UK charities.

Give01Day is a not for profit organisation that provides charities with help and advice on how to improve their information security and data protection. Working with IASME – one of the four accreditation bodies for assessing and certifying against the *Cyber Essentials* scheme – it has begun hosting a series of free educational webinars.

The online sessions are presented by industry experts, and during the first series participants can learn about cyber controls and what should be in place. The webinars started on 15 February and will be held every two weeks, but will be available on demand once recorded.

Give01Day says its can offer a limited number of wholly subsidised certifications to a limited number of charities. After that, it has worked with the IASME to offer preferential rates.

As a further incentive, when any UK-based charity that has an annual turnover of less than £20m per year is certified to *Cyber Essentials* by IASME, it automatically receives free cyber liability insurance. This will cover it for up to £25k in the event of a cyber breach.

The government says its *Cyber Essentials* scheme will help businesses and organisations of all sizes protect themselves and their valuable assets against online threats.

Amar Singh, founder of Give01Day and the Cyber Management Alliance adds: "Given the increasing dependency on everything cyber, this certification and the accompanying awareness and education will help uplift the security posture of charities and in protecting their sensitive personal data stores."

[www.give01day.com](http://www.give01day.com)



**Give01Day founder Amar Singh says the certification will help raise the security stance of charity organisations.**

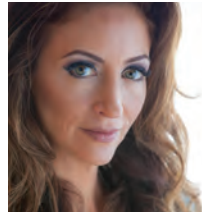
## Everywoman hosts first technology forum

Everywoman is hosting its first forum for women in technology. Supported by EMC and Salesforce, the one-day event will offer personal development masterclasses as well as insight from women who are billed as the industry's "most accomplished technology role models".

Speakers at the inaugural Technology Forum include tech entrepreneur Martha Lane Fox; Kerry McGuire, VP of new business ventures at ARM; Trudy Norris-Grey, Microsoft's GM of Central and East Europe; amongst others.

Everywoman says the event is dedicated to giving delegates the skills, advice and guidance they need to realise career ambitions in technology.

Salesforce AVP Melissa DiDonato, who will also be speaking at the forum, says: "I know from my own experience that being able to learn from other women in technology, find mentors, and share and promote female success, is vital to both continued and personal career growth. Further, this kind of forum helps encourage more women to view



**Salesforce AVP Melissa DiDonato says the forum will encourage more women to view the technology industry in a positive light.**

the technology industry in a positive light."

Founded in September 1999, Everywoman describes itself as an expert in the advancement of women in business. Its Technology Forum takes place at the Hilton Hotel, Park Lane, London on 17 March. [www.everywoman.com](http://www.everywoman.com)

## NEW COURSES

*SDN and SDDC technologies –*

*Cloud Expo Europe*

Among the new features for this year's

*Cloud Expo Europe* is a programme dedicated to software defined networks (SDN) and software defined data centres (SDDC).

A variety of industry experts will impart their software defined knowledge and wisdom over the two-day event. The speaker line-up includes: Ivano Rondelli from NTT Communications who will discuss the impact of cloud-based networking; Silver Peak's Everett Dolgner who will focus on the idea of "software defined everything"; C4L's Alex Cruz Farmer who will talk about creating the DC network; and others

*Cloud Expo Europe* is colocated with Data Centre World and takes place on 11-12 March at the ExCel, London. Sessions in the SDN and SDDC theatre begin each day at 10.15am. <http://tinyurl.com/mws2mok>

*Cyber Security assessment – Xchanging*

Xchanging has been awarded *Cyber*

*Essentials* accreditation, as well as the ability to certify other organisations wishing to receive *Cyber Essentials* or *Cyber Essentials Plus* certification.

Under the *Cyber Essentials* scheme – which was developed as part of the UK's *National Cyber Security Programme* and is supported by industry – organisations can apply for a badge which confirms the achievement of government-endorsed standards of cyber hygiene.

Xchanging says its assessment will help businesses understand the level of cyber risks they are currently exposed to. Once assessed, the results enable Xchanging to identify key areas of improvement for the business and actions that may be taken to bolster security and reduce cyber risks. The organisation can then seek certification for *Cyber Essentials* or *Cyber Essentials Plus*. [www.xchanging.com](http://www.xchanging.com)



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