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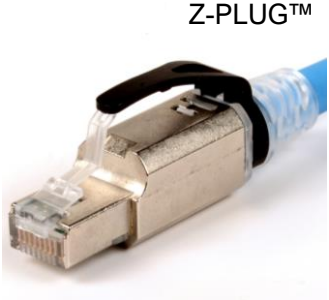

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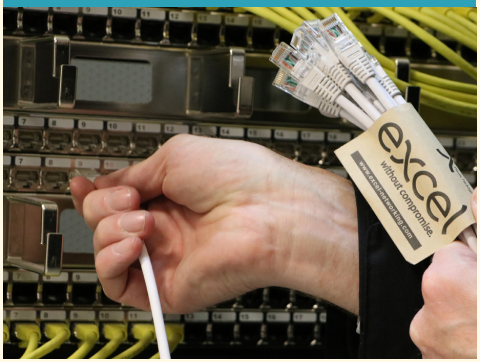

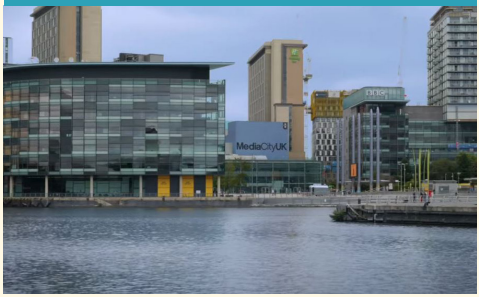

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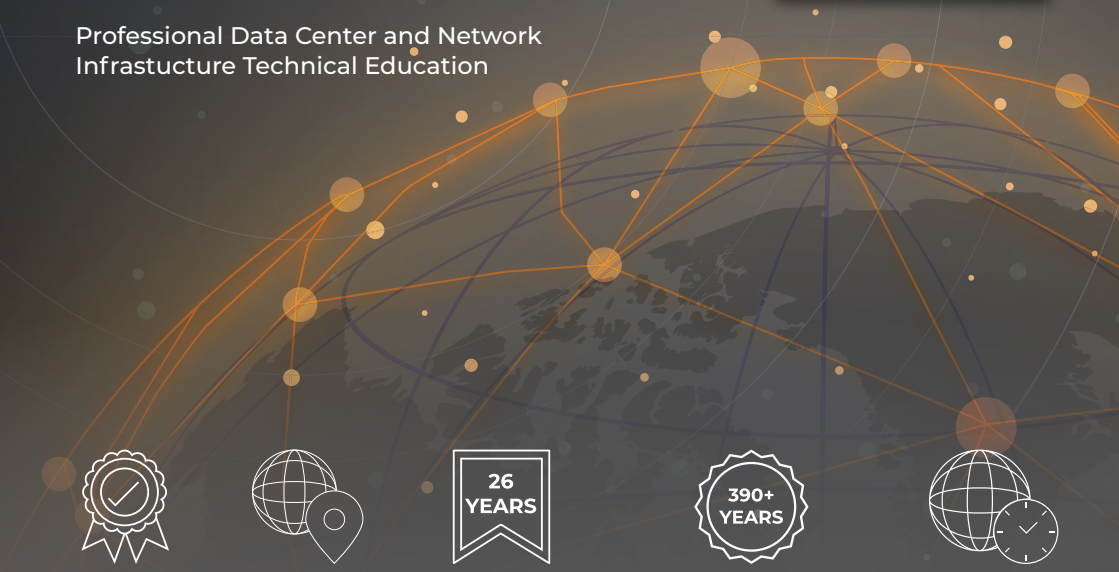

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And we're off!

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2022 has got off to a flying start and it already feels like it could be a pivotal year for the data centre sector. Those charged with managing and operating these facilities have a lot to think about at the moment and along with the rollout of 5G and the growth of the internet of things (IoT), they also need to make their facilities as energy efficient as possible.

However, recent research from the Uptime Institute found that Power Usage Effectiveness (PUE) levels remain stagnant and organisations are not closely tracking their environmental footprints, despite the global sustainability push. This month's Question Time asks a panel of experts whether this suggests a growing sense of green fatigue and what more should be done to accelerate the transition to zero carbon emissions through energy efficient data centres.

The colocation data centre sector is also set to remain buoyant and we've asked Josh Buis of Vantage Data Centers to provide an overview of the latest developments in the global colocation data centre market and look at what the future has in store. Data centre growth has also meant that more people are needed to operate them and this is proving problematic. Joe Palmer of Colt Data Centre Services (Colt DCS) looks at the reasons behind the data centre skills shortage and what needs to be done about it.

Also in this issue we focus on copper cabling, with two excellent articles on the subject. In the first, Valerie Maguire and Lee Funnell of Siemon discuss why the latest wireless technologies like the emerging Wi-Fi 7 and Li-Fi still can't threaten copper cabling networks. In the second, Robert Luijten of Fluke Networks explains best practice for testing copper cabling and the pitfalls to avoid.

With lots more besides, I hope you enjoy this issue of Inside_Networks and if you'd like to comment on any of these subjects, or anything else, I'd be delighted to hear from you.

Rob Shepherd
Editor

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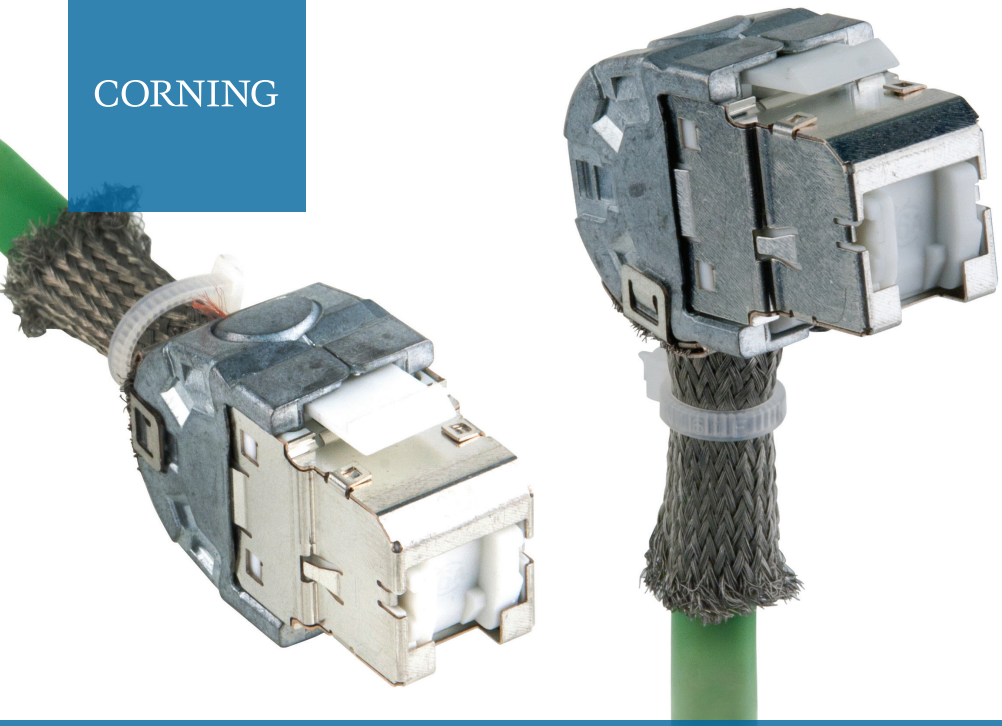

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Growing data volumes now a serious problem for a third of enterprises

Enterprises are struggling to cope with growing data volumes and have an urgent need to transform their IT infrastructures, according to research commissioned by Telehouse Europe. A third of enterprise IT decision makers say growing data volumes have become a serious problem, with five per cent saying it is now very serious. The issue is particularly prominent within private healthcare, with 46 per cent saying it is a serious challenge.

Problems are manifesting in a number of ways, with 45 per cent saying they struggle to handle and integrate disparate data types and sources, 36 per cent admitting challenges with siloed, proprietary approaches to data and 35 per cent having problems storing and preparing data for use with artificial intelligence or machine learning. As well as grappling with data growth, enterprises are also under pressure to deliver a more mature IT infrastructure. Just 15 per cent say they are ahead of competitors with IT maturity and a third (34 per cent) say they need to transform their IT infrastructure or risk becoming less competitive.

Many enterprises are turning to edge computing as the answer and are looking to develop high speed, low latency interconnections between cloud, colocation and edge computing. Over two-thirds (68 per cent) of enterprises have already implemented a strategy for edge computing, with financial services and private healthcare the most advanced (72 per cent in each having deployed a strategy). Of those that have implemented an edge strategy, the top drivers are adoption of new technologies/devices (41 per cent), responding to competitor capability (37 per cent), digital transformation (37 per cent) and optimisation of data volumes (36 per cent).


Mark Pestridge

Mark Pestridge, senior director customer experience at Telehouse Europe, said, 'Enterprises want to use data to increase agility, inform strategy, launch new services and aid decision making, but the sheer volume of data is overwhelming. Many are now looking towards edge computing as the answer, but ultimately success will boil down to having the right robust infrastructure and connectivity. Having a data centre partner that can provide secure, scalable and resilient on-demand access to cloud and edge ecosystems is now a prerequisite.'

Sue Daley, director of tech and innovation at techUK, added, 'This survey highlights a number of challenges being faced by businesses around the application of edge computing. Given the potential opportunities and benefits of edge, action is needed now to make sure we equip organisations of all sizes and sectors with the knowledge, understanding and skills needed so they are able to embrace edge computing. This is a challenge we have to overcome to fully embrace the next stage of edge computing innovation.'

Business appetite for tech investment is growing

Studio Graphene recently commissioned a survey of 752 senior decision makers within UK businesses. It found that the majority of businesses (58 per cent) expect their IT spend to grow in the coming 12 months. However, small businesses are set to be more modest with their spending plans than their more established counterparts.


Ritam Gandhi

49 per cent of decision makers said their business intends to invest in a new area of technology that it has not used before, such as artificial intelligence, the internet of things, big data and/or cloud computing. Studio Graphene's research showed that enthusiasm for experimenting with new technologies is also growing, with 42 per cent of respondents saying their organisation's risk appetite has increased significantly over the past 12 months. At 64 per cent, large businesses were much more likely to hold this view than small firms (28 per cent).

Ritam Gandhi, founder and director at Studio Graphene, said, 'After a period of stagnation, where businesses focused their efforts on ironing out teething issues relating to remote and hybrid working, it's fantastic to see renewed enthusiasm for tech investment.'

Equinix expands into Africa with acquisition of MainOne

Equinix has expanded into Africa through its acquisition of MainOne, a leading West African data centre and connectivity solutions provider, with presence in Nigeria, Ghana and Côte d'Ivoire. The acquisition is expected to close Q1 of 2022, subject to the satisfaction of customary closing conditions including the requisite regulatory approvals.


Charles Meyers

The transaction has an enterprise value of $320m and marks the first step in Equinix's long-term strategy to become a leading African carrier neutral digital infrastructure company. With more than 200 million people, Nigeria is Africa's largest economy and, along with Ghana, has become an established data centre hub. This makes the acquisition a pivotal entry point for Equinix into the continent.

Charles Meyers, president and CEO at Equinix, said, 'Growth of data consumption in Africa is amongst the fastest in the world, and our customers are looking for a trusted partner to pursue the opportunities presented by broad mobile adoption and greater connectivity across the region. MainOne's infrastructure, customer relationships, partner ecosystem and operating capability will extend the reach of Platform Equinix and bolster opportunities for customers in Africa and throughout the world.'

Three in five tech businesses are 'behind' when it comes to engaging with diversity, equality and inclusion

Research by Thoughtworks has found that three in five tech businesses in the UK believe there is still a long way to go to improve diversity, equity and inclusion in their sectors. Among the issues that need most urgent attention are career development for minority groups, representation in senior posts and at board level, and allyship and understanding.

The research found that 33 per cent of those in the tech sector said their organisations either had no plans to address career development issues for minority groups or did not know where to start. Similarly, 22 per cent felt the same for representation and 24 per cent for allyship and understanding.

The proportion of tech companies with plans in place to tackle issues around gender equality (41 per cent) and age discrimination (34 per cent) was significantly higher than those with plans to address race and ethnicity (29 per cent).

Amy Lynch, head of diversity, equity and inclusion at Thoughtworks UK, said, 'Whether it is age, gender or ethnic diversity, we have to be honest that the tech sector is out of balance. But we can change this. There is a wealth of talent out there that could offer the sector, which relies on innovation and different ways of thinking, a fresh perspective.'

Consortium of seven organisations chosen by the Clean Hydrogen Partnership to develop a next generation fuel cell platform

The Clean Hydrogen Partnership is providing €2.5m to help fund a project to develop low carbon fuel cells to power data centres. The EcoEdge PrimePower (E2P2) project is a proof of concept initiative aiming to develop and demonstrate low environmental impact fuel cells that provide economic and resilient prime power solutions for the data centre environment.

A consortium of seven companies – Equinix, InfraPrime, RISE, Snam, SolidPower, TEC4FUELS and Vertiv – will explore an innovative integration of solid oxide fuel cells with uninterruptible power supply (UPS) technology and lithium-ion batteries to provide resilient and clean primary power to data centre deployments and other critical infrastructure. Implementing natural gas solid oxide fuel cells (SOFC) as a prime power application will be instrumental to pave the way for the use of green hydrogen for fuel cells application.

'It is vital to fast-track our journey towards an environmentally sustainable future,' said Giordano Albertazzi, president for Vertiv in Europe, Middle East, and Africa. 'This can only be made possible by developing clean, innovative technologies such as fuel cell solutions to provide sustainable power for the digital world.'


Giordano Albertazzi

Vantage Data Centers opens London office to support ongoing growth across EMEA

Vantage Data Centers has opened a new business office in London. The office will house sales and administration functions to support the company's expanding operations across Europe, Middle East and Africa (EMEA). Located in Farringdon, the new office is fully operational with a team of more than 50 employees. Eventually, it will accommodate more than 80 personnel, supporting Vantage's expanding data centre footprint in EMEA.


Justin Jenkins

'The UK has cemented its spot as Europe's home to technology, enforcing the critical need for us to be at the heart of major businesses, close to our potential and existing customers,' said Justin Jenkins, chief operating officer EMEA and UK president at Vantage Data Centers. 'Our new London office streamlines our sales operations and is in line with our ongoing efforts to continually increase efficiencies and reduce environmental impacts, best serving our growing customer base across the EMEA region.'

NEWS IN BRIEF

Nokia and Türk Telekom have completed the first successful 25Gb/s passive optical network (PON) trial in Turkey, making it the fastest fibre network in the country. The laboratory trial took place in the Türk Telekom Ankara Innovation Center and achieved downstream speeds of 20Gb/s over a single wavelength.

Colt Group, comprising Colt Technology Services and Colt Data Centre Services (DCS), has gained a Gold rating from EcoVadis for its environment, social and governance (ESG) performance, and a B rating from the Climate Disclosure Project (CDP) for company environmental performance.

A study from Juniper Research has found revenue generated from 5G services will reach $600bn by 2026, representing 77 per cent of global operator billed revenue. It found adoption of 5G services across consumer and internet of things (IoT) sectors has been driven by a strong uptake of 5G capable devices, coupled with attractive 5G subscription pricing models, despite the semiconductor crisis caused by the coronavirus pandemic.

Vantage Data Centers and its lead investor, Digital Bridge Group, have completed the acquisition of PCCWs data centre business (PCCW DC). The acquisition expands Vantage's data centre platform to include 100MW of existing and expansion capacity across multiple facilities in Hong Kong and Kuala Lumpur, and is part of the company's strategic expansion into Asia Pacific.

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Give me five

Hi Rob

I would like to share my predictions for 5G during 2020 and beyond.

Dynamic spectrum sharing (DSS) will grow but new or reframed spectrum is needed sooner rather than later. Operators face stiff competition to provide as much 5G coverage in their markets, as quickly and cost efficiently as possible. To that end, expect more carriers to use DSS to raise their 5G profile with consumers. However, while DSS does ensure that more subscribers see that they're connected to 5G on their handsets, it can't deliver data speeds that consumers associate with 5G.

A few operators began deploying 5G standalone networks in 2021 and those numbers will grow in 2022. What will be different is that many operators will be looking to partner with hyperscalers to do it, aiming to host cloud native 5G core capabilities on cloud providers' infrastructure. This process began in 2021, as operators began to grapple with the challenges cloud native infrastructure presents for traditional operations teams – and how much they can benefit from economies of scale by working with hyperscalers like Google, Microsoft and Amazon.

The industry will see significant growth in investment in artificial intelligence (AI), machine learning (ML) and automation. In particular, more operators are investing in active testing and assurance systems to inject synthetic traffic into their networks to emulate real users and services. And they're seeking to pair these systems with AI/ML algorithms that can make good decisions in real time for where, when and what to actively test to improve services or isolate faults, without human intervention.

The first wave of telco edge cloud use cases will hit the market. 2021 saw the first fledgling edge cloud partnerships between operators and cloud providers or other

third parties. In 2022 we'll see the initial test runs get serious business attention and investment.

Latency will begin to replace data rates in the battle for the hearts and minds of telco customers. For decades, the race to win the mobile marketplace was all about delivering faster data rates than the competition. As operators begin to expand their focus on the enterprise and industrial sectors in 2022, that focus will begin to give way to latency. Expect more operators to invest in demonstrating to the market that their networks can not only deliver latencies as low as required, but can deliver those latencies consistently enough to support mission critical industrial applications.

Last but not least, momentum will continue building to accelerate some 'beyond 5G' services. The service provider industry has already begun vision setting in earnest for future wireless systems. As they do, many are searching for opportunities to bring some of those future technologies back within the umbrella of 5G architectures over the next eight years. We expect to see these efforts in two major areas. First, integrating low Earth orbiting satellite technology into the 5G system to enhance 5G coverage for specific use cases and specific areas of reach. Second, we're seeing early testing efforts in the use of reconfigurable intelligent surfaces and meta-materials, with the goal of creating intelligent reflective surfaces that can direct or even amplify radio signals.

Stephen Douglas
Spirent Communications

Editor's comment
Some fascinating food for thought – it will be particularly interesting to see how the relationship between operators and the leading hyperscalers develops.

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Time to get serious

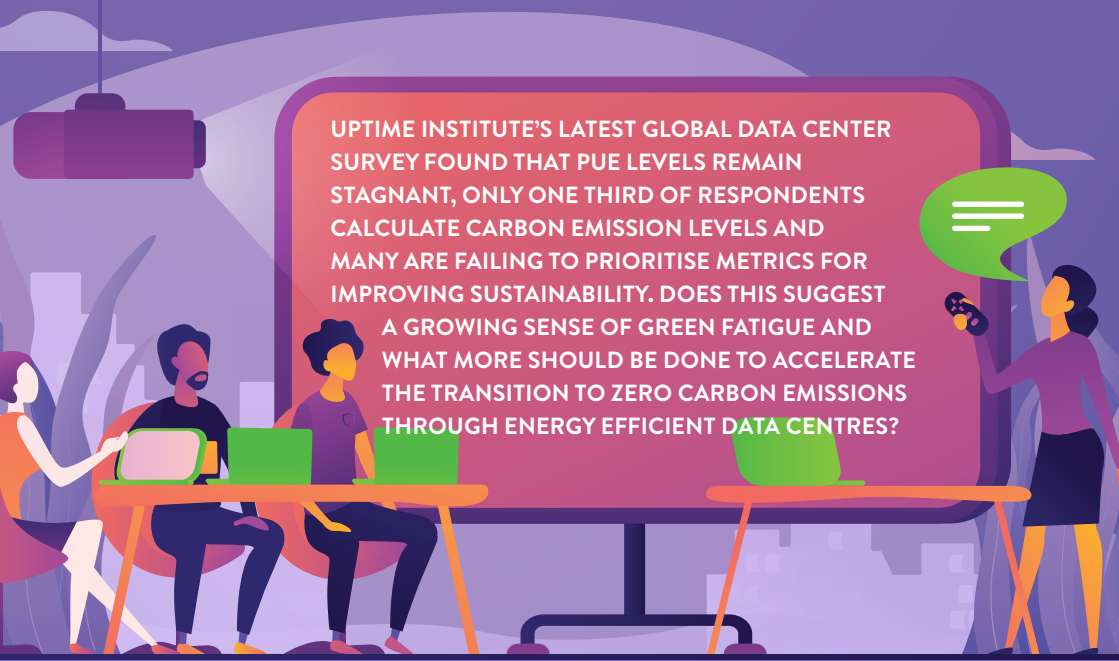
Research from the Uptime Institute has found that many data centres are not closely tracking their environmental footprints. Inside_Networks has assembled a panel of industry experts to discuss why and what should be done to stimulate a greater commitment to sustainability

Although data centre owners and managers are under relentless pressure to make their facilities as energy efficient as possible, recent research from the Uptime Institute suggests that some are giving the issue very little thought. Power Usage Effectiveness (PUE) levels remain stagnant – in 2021, the average annualised data centre PUE was 1.57, a minor improvement over 2020's average of 1.59 that is consistent with the overall trend of PUE stagnation over the past five years.

It found that organisations are not closely tracking their environmental footprints, despite the global sustainability push. While most data centre owners and operators track PUE and more than 80 per cent measure power consumption rates, many still are not prioritising vital metrics for improving and reporting sustainability, with just 51 per cent of respondents measuring water use in some way.

So do these findings represent a shifting attitude towards sustainability and could it be the case that green fatigue is creating a general disinterest in the issue as a result of information overload? Inside_Networks has assembled a panel of experts from all areas of the industry to discuss the issue.

Don't forget, if you have a question that you would like answered **CLICK HERE** and we'll do our best to feature it.



UPTIME INSTITUTE'S LATEST GLOBAL DATA CENTER SURVEY FOUND THAT PUE LEVELS REMAIN STAGNANT, ONLY ONE THIRD OF RESPONDENTS CALCULATE CARBON EMISSION LEVELS AND MANY ARE FAILING TO PRIORITISE METRICS FOR IMPROVING SUSTAINABILITY. DOES THIS SUGGEST A GROWING SENSE OF GREEN FATIGUE AND WHAT MORE SHOULD BE DONE TO ACCELERATE THE TRANSITION TO ZERO CARBON EMISSIONS THROUGH ENERGY EFFICIENT DATA CENTRES?

NANCY NOVAK

CHIEF INNOVATION OFFICER AT COMPASS DATACENTERS

Let me answer this question by saying, 'if it's not important to the customer, it's not going be important to the business'. As hard as it may be to believe, 'green' is a nice to have and not a requirement for a large segment of the data centre community.

Although we've seen many hyperscalers and hyperscale providers regularly announcing their climate goals and latest green power agreements, it's important to remember that when we're speaking in absolute numbers there are a heck of a lot of data centres out there. When you factor them into the equation, these observations shouldn't be surprising.

This green plateau doesn't mean the industry is rife with companies who don't want what's good for the planet, however, in their cost benefit analyses other requirements are more important to address. For hyperscalers, green operation, and all it entails, is baked into their design and operational plans. Certainly, their zero carbon goals are not only important to them as an organisation, but to their shareholders and customers as well.

I don't think government mandates or legislation would stimulate more green demand – in fact they may stifle the continued innovation that we've seen from the industry. As the climate issues facing countries around the world continue to be thrust even more into the public consciousness, we can expect data centre customers and operators to increasingly insist that their providers not only have an expressed commitment to decarbonisation, but have the ability to demonstrate the effectiveness of their efforts as well.

Obviously, we appear to be in a period of stasis in terms of an industry-wide movement toward carbon neutrality. I think this will be short-lived, since the tide of demand for a zero carbon data centre sector is simply too strong to enable small to medium sized data centre operators, as well as their enterprise counterparts, to continue to avoid taking action.

'AS HARD AS IT MAY BE TO BELIEVE, "GREEN" IS A NICE TO HAVE AND NOT A REQUIREMENT FOR A LARGE SEGMENT OF THE DATA CENTRE COMMUNITY.'

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GÉRARD THIBAULT

CHIEF TECHNOLOGY OFFICER AT KAO DATA

From a social and environmental perspective, our industry is undoubtedly changing for the better. Not only has the sector become more conscious and aware of its carbon footprint, an operator's green or sustainability based credentials are seen as a competitive differentiator.

Sustainability is a non-negotiable and should be at the heart of everything we do. New standards, such as those provided by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and legislation driven by industry groups such as the Climate Neutral Data Centre Pact can certainly help accelerate the transition to zero carbon emissions. However, those alone will not be enough.

Many newer data centres are designed to deliver a low PUE rating and it's crucial to remember that PUE still remains one of the most widely adopted metrics and most effective ways to measure efficiency. Our London One facility in Harlow, for example, delivers a PUE of 1.2 even at partial loads, but its design, its power and cooling infrastructure were pivotal to achieving this. Comparably, most older or legacy facilities were not designed to consider energy efficiency as a key priority.

Green fatigue is not the sole reason for stagnating PUE levels. One must remember that PUE ratings will differ based on several contributing factors including geographical location, the surrounding temperature and the environmental conditions of the data centre. New facilities can certainly be designed to be ultra-efficient, but legacy data centres, many with PUEs of above 1.56, can be technically difficult and expensive to upgrade to the levels that will soon be required by customers and regulations.

There are also other aspects to consider. Legacy software, for example, consumes far more energy than newer applications and there's also the question of how a data centre draws power, or if we can reduce power requirements at the grid level. A final consideration is the use of renewables and how a data centre both stores and uses energy. Transitioning away from fossil powered generators and using fuels like hydrotreated vegetable oil can reduce CO2 emissions by up to 90 per cent.

'MANY NEWER DATA CENTRES ARE DESIGNED TO DELIVER A LOW PUE RATING AND IT'S CRUCIAL TO REMEMBER THAT PUE STILL REMAINS ONE OF THE MOST WIDELY ADOPTED METRICS AND MOST EFFECTIVE WAYS TO MEASURE EFFICIENCY.'

SIMON BRADY
DATA CENTRE OPTIMISATION PROGRAM MANAGER AT VERTIV

Green fatigue? The short answer is no. Quite the opposite.

The data centre industry is under increasing pressure to become more accountable for the energy facilities consume, as well as their carbon emissions. The recent surge in energy prices is further driving data centre operators to focus on optimisation efforts to reduce energy consumption.

Is the industry a long way from reaching net zero? Yes. Are we doing all we can? Absolutely. Technological advancements over the past decade have seen huge leaps in efficiency in network critical physical infrastructure.

From a power point of view, uninterruptible power supplies (UPS) are already at 99 per cent efficiency. The gains in thermal management are equally impressive. Where do we go from here? The perfect data centre would have a PUE of 1.0 but today's IT manufacturers and software stack have a lot more to do to ensure the 'one' is keeping pace with the technology improvements within a data centre facility.

The Uptime Institute's report offers good insight. However, as with all surveys, we must be wary of the results. Firstly, there's a known problem with reporting PUE. While it's been a data centre industry metric for many years, it's still being incorrectly applied and often used as a site to site comparison, which it was never intended to be. As no two data centres are the same, PUE comparison is redundant.

801 end users registering for the survey is an impressive figure but a fraction of the total number of data centres operating globally. Furthermore, the large hyperscale operators seem to be excluded. Respondents are those offering colocation, wholesale, software or cloud computing services – facilities that are rarely close to 100 per cent utilised, so the PUE number is never going to be low. These sites also tend to build out on a modular approach. As space or capacity threshold is reached, a new module is brought online. This means you could see a site with a steady reduction in PUE jump up when new capacity is added.

Until we're all rigorously reporting to the same standard and metrics, we're never going to get a true view of the state of our industry. Scope 1 and 2 carbon reporting will help, but until then we'll have to rely on surveys.

'801 END USERS REGISTERING FOR THE SURVEY IS AN IMPRESSIVE FIGURE BUT A FRACTION OF THE TOTAL NUMBER OF DATA CENTRES OPERATING GLOBALLY. FURTHERMORE, THE LARGE HYPERSCALE OPERATORS SEEM TO BE EXCLUDED.'

JOHN BOOTH

MANAGING DIRECTOR AT CARBON3IT

In a word, no, it does not indicate a growing sense of green fatigue. If some operators think that the issue of data centre energy efficiency and sustainability is going away then they need to think again, and quickly.

What it does indicate is that some organisations are still operating at the lower end of the ASHRAE 18°C-27°C temperature/humidity ranges and still retain old 20th century style service level agreements (SLAs). Also, they potentially haven't yet implemented the full complement of the BS EN 50600 TR 99-1 energy efficiency best practices, which are essentially the same as those contained in the European Union Code of Conduct for Data Centres (Energy Efficiency) (EUCOC), in their data centres.

Many organisations report only PUE, which in many cases is still using the old Green Grid methodologies rather than the standardised ISO 30134-2 document. This is usually hidden away deep in their websites.

The acceleration in effort, most definitely in Europe, to meet net zero targets, will almost certainly come from the Climate Neutral Data Centre Pact (CNDCP) and whatever it agrees with the EU Commission in terms of reporting requirements for the five pillars of the CNDCP – energy efficiency, clean energy, water, circular economy and circular energy systems. These are likely to be based upon the rest of the ISO 30134 series of data centre key performance indicators (KPIs), which will be independently verified by a third-party. It remains to be seen what penalties or transitional funding could or would be applied for those that fail to improve.

The other possibility is that pressure from the clients of data centres for them to improve will have an effect, even so far as to migrate their IT out of inefficient data centres and into those that operate more sustainably. They might need to do this in order to meet their own environmental, social and governance goals.

The message is simple – either prepare and implement an energy efficiency and sustainability strategy now or face the consequences. Some guidance to assist organisations in reaching their goals can be found in the various standards, the EUCOC itself, the iMasons Sustainability Framework or the forthcoming DCA Sustainability white paper. Another option is to retain a suitably qualified data centre aware sustainability consultant.

'IN A WORD, NO, IT DOES NOT INDICATE A GROWING SENSE OF GREEN FATIGUE. IF SOME OPERATORS THINK THAT THE ISSUE OF DATA CENTRE ENERGY EFFICIENCY AND SUSTAINABILITY IS GOING AWAY THEN THEY NEED TO THINK AGAIN, AND QUICKLY.'

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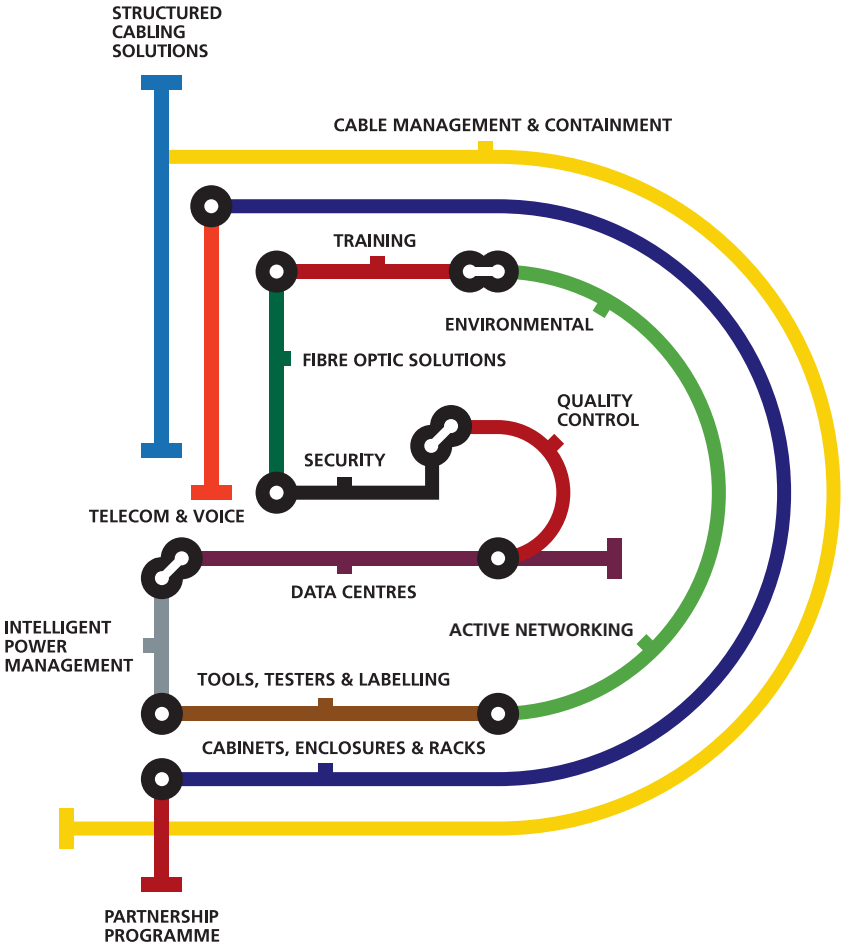

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NEAL KALITA

DIRECTOR OF POWER & SUSTAINABILITY AT VANTAGE DATA CENTERS

PUE has stagnated but this isn't necessarily a sign of fatigue or ambivalence. PUE is not only dependent on how data centres operate but also the climate they are in. Hotter climates lead to higher PUE ratings. The increasing frequency of heatwaves due to climate change means that the sustainability of data centres has to come out of the box in order to continue reducing emissions. More than ever, leaders in the data centre industry are stepping up to the challenge by embracing new technologies and innovative approaches to sustainability.

Focus has shifted to sourcing renewable generation, yet intermittency and low power density often means that renewables cannot provide all the energy a data centre needs. There are other technologies that can assist in improving this such as microgrids, virtual power plants and energy storage systems. But there is no single magic bullet, rather a combination that will help improve the efficiency and intermittence of renewable power.

The list of locations where we can build data centres needs to be expanded. Do availability zones need to be where they are? Why can't we build in colder climates or colocate next to large renewable farms in less urbanised sites?

Part of the answer sits with connectivity, or the lack of it. Optical fibre networks are only partially being provided – gateways and exchange operators are not at sufficient volume, leaving thousands of fibre kilometres unlit. This limits the locations where data centres can be built and, until this is addressed, we will continue to have to build in areas with increasing energy costs and decreasing power availability. Clients need the least latency and want operations where the exchange will support that.

The networks that serve data centres in terms of power and communications need to be resilient, low carbon and low latency. Sustainability of the data centre is now about the infrastructure serving it and PUE stagnation is not a sign of green fatigue, but rather a sign that our industry is limited in the solutions that can be deployed under current infrastructure constraints. As with all global challenges, the solution lies in a combination of technologies that will enable us to continue to think outside of the box and widen our approach to reducing greenhouse gas emissions.

'SUSTAINABILITY OF THE DATA CENTRE IS NOW ABOUT THE INFRASTRUCTURE SERVING IT AND PUE STAGNATION IS NOT A SIGN OF GREEN FATIGUE, BUT RATHER A SIGN THAT OUR INDUSTRY IS LIMITED IN THE SOLUTIONS THAT CAN BE DEPLOYED UNDER CURRENT INFRASTRUCTURE CONSTRAINTS.'

JOE MCCAFFREY

MANAGING DIRECTOR AT DUKE MCCAFFREY

In my view, many of the participants at the 26th UN Climate Change Conference of the Parties (COP26) merely paid lip service for political gain on the pressing issue of climate change. Whilst there is no doubt that the intensity of the discussions has escalated, and big nations have engaged with the political agenda, none of it has been backed with any real plans or investment to take on the climate change challenge.

Political cycles of four or five years are also a significant hurdle in achieving necessary change. We often see political betrayal epitomised by U-turns – for example, Boris Johnson's HS2 to northern England – bringing great uncertainty to any political commitment on strategic issues like this.

In a very short period of time the data centre industry has achieved significant milestones when it comes to improving the design, construction and operation of facilities. These include the redesign of cooling systems, the removal of critical chilled systems where possible, improving rack density and the lowering of PUE from 2.0 to 1.2 on many new sites.

The sector has aimed to meet stringent goals, from Uptime Institute certification to Leadership in Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Method (BREEAM). And the industry is also seeking to do more to help, for example, moving to highly efficient on-site generation through gas or dual fuel supplies. Going forward, there is so much more we can do in relation to the circular economy and the recycling of major plant and equipment, as well as retrofitting existing data centre sites and reducing carbon exposure when building facilities.

But there is no doubt that data centres will remain reliant on power provided by the electrical grid in the future. There is a political and national infrastructure requirement to align data centres with green power, where possible, and there is a need to encourage the movement of data centres to regional locations to spread the load across a wider area.

'IN A VERY SHORT PERIOD OF TIME THE DATA CENTRE INDUSTRY HAS ACHIEVED SIGNIFICANT MILESTONES WHEN IT COMES TO IMPROVING THE DESIGN, CONSTRUCTION AND OPERATION OF FACILITIES.'

Danuta Gray joins North as chair of the board


Danuta Gray

North has appointed Danuta Gray to the position of chair of the board. Gray brings over 25 years of executive experience in the telecommunications sector, having held a variety of roles at BT, Telefonica O2 Ireland and Telefonica Europe. The appointment comes as North builds on its strongest year to date, having secured multiple major new contracts and customers, and following the acquisition of Data Techniques.

Glen Williams, CEO at North, said, 'Now is the perfect time to welcome Danuta to the board as we look to our ambitious growth plans in 2022. Danuta's experience in scaling businesses and knowledge within the sector positions her as the perfect chair to lead the North board, as we expand into new areas and develop new innovative solutions to support more organisations and businesses to work in smarter, safer and more sustainable ways.'

Stulz prepares for further growth with its new Benelux corporate headquarters

Stulz is expanding its presence across the Benelux region with a new corporate headquarters in the Netherlands. Located in the Dutch business centre of Hoofddorp, in the immediate vicinity of Schiphol Airport, the new Stulz Groep BV headquarters is a climate neutral intelligent building that boasts a state-of-the-art infrastructure.

The new Benelux headquarters took 10 months to build and is designed to be as sustainable as possible through the extensive use of innovative and environmentally focused technologies. More than 950 solar collectors have been installed, which are capable of meeting the average annual energy requirements of around 130 households and supply an energy volume of up to 350,000kWh per year.

In addition to fully supplying the energy needs of office workstations, production and warehouse facilities, the sustainable concept also provides enough electricity for 10 electric vehicle (EV) charging stations. These will supply power to a new EV fleet and will be further expanded as required.

Panduit board names Shannon McDaniel as CEO

Panduit has appointed Shannon McDaniel as its chief executive officer (CEO) and president. McDaniel, who currently serves as the company's chief financial officer (CFO), will succeed current CEO and president, Dennis Renaud, who will retire at the end of 2021.


Shannon McDaniel

McDaniel has served in a variety of leadership positions over his 30-year career. Prior to joining Panduit as CFO, he excelled in global financial leadership roles during his 14 years with Eaton including serving as the company's director of finance for its EMEA electrical business and vice president of finance for the Americas systems and services group.

'I am thrilled for the opportunity to serve as Panduit's CEO and lead the company into its next phase of growth,' said McDaniel. 'We have a great strategy, an incredibly talented and dedicated workforce and an innovative culture that is continually looking to create value for our customers. I am very excited about our future and the opportunities in front of us.'

Siemon celebrates the success of its partner event at Diani Beach

Siemon recently hosted an African channel and service provider partner event at the Southern Palm Beach Resort in Mombasa, Kenya. The three day event provided an opportunity for Siemon and its longstanding distribution partner, Mart Networks Group, to reconnect with all of their partner companies and thank them for their continual hard work.


Iyer Sivakumar

Representatives from partners across the continent followed the invitation to Diani Beach at the edge of the Indian Ocean to learn more about Siemon's innovative IT infrastructure portfolio. The meeting agenda included a conference, an excursion to Kisite Marine Park and Wasini Island where there were plenty of opportunities to watch dolphins and snorkel in the pristine waters, followed by a Kenyan barbeque dinner.

Iyer Sivakumar, Siemon's territory sales manager for Africa, commented, 'Our partners play a fundamental role in achieving success. Their dedication and hard work ensure that end users can rely on advanced data centre and intelligent building solutions that support them today and for many years to come.'

Vertiv appoints Birgit Jackson as director of its integrated racks and IT solutions business in EMEA

Birgit Jackson has joined Vertiv as director of its integrated racks and IT solutions business in Europe, Middle East and Africa (EMEA). She will report to EMEA president and global channel leader, Giordano Albertazzi, and is tasked with developing strategies and directing a team to help Vertiv's continued growth and leadership in the IT channel market.


Birgit Jackson

Jackson joins Vertiv with over 20 years' experience in global product management, which has seen her define product lines, positioning and price structure; lead on product strategies for European sales regions; and direct marketing and communications initiatives. She replaces Alex Pope, who has recently been promoted to global vice president for edge systems.

'It's an amazing time to join Vertiv', said Albertazzi. 'Continuing to attract the very best into our business is vital to fuel our growth. With her strong track record of strategic and decisive business leadership, as well as her extensive product management experience, it's clear Birgit belongs in this category.'

'We are living through a time of accelerated digital transformation,' said Jackson. 'Critical infrastructure now has utility status and I'm really excited to join a company at the forefront of creating and implementing the IT solutions that are going to power the digital world.'

CHANNEL UPDATE IN BRIEF

Optilan has appointed a new member on to its leadership team following an internal promotion. Craig Atkin has been promoted to engineering and technology director from his previous position as engineering manager.

TigerGraph has appointed veteran technologist, Pekka Kostamaa, as vice president of engineering to head the global engineering team.

Schneider Electric has named on365 as its first dual partner in the UK. The organisation has been a longstanding Schneider Electric Secure-Power partner for 23 years, now joining the growing list of its EcoXpert Power Services Partners.

OVHcloud and Bechtle are entering into a strategic, Europe-wide partnership. Through this long-term collaboration, both companies aim to support each other in expanding their businesses in their core markets across the whole of Europe and offering their business to business and public sector customers extended access to the latest cloud solutions with full data sovereignty.

HellermannTyton

Say Hello to the New HTC Series LAN Solutions.

With a tool-less jack, range of patch panels and outlets, plus accessories including LC and Euro modules, faceplates and back boxes.

MADE TO CONNECT

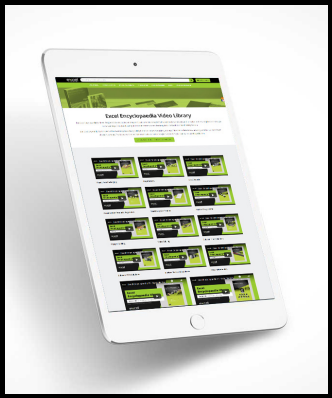
Introducing the Excel Encyclop

Excel Networking Solutions is excited to announce the release of the fifth version of the Excel Encyclopaedia – a publication that since the first edition in September 2010 has received much acclaim for its educational and factual content.

Complete insight

The Excel Encyclopaedia V5, available in English, French and Spanish, has been designed to provide consultants, M&E contractors, end users and installation partners with a thorough understanding of structured cabling and, more importantly, a complete insight into the Excel Structured Cabling Solution. Written by key members of the Excel technical and marketing teams, the Excel Encyclopaedia V5 includes even more detail and updated core content, to act as a single and trusted source of information.

The 21 individual chapters of the Excel Encyclopaedia V5 are available to download via the Excel website, to allow readers to easily access relevant content for their requirements, particularly in the Pre-Sales Support section, which provides web links to ready-made specification document templates to assist with complex bids. Being a digital only publication ensures that each chapter is interactive, providing easy routes of access to a wealth of information, infographics and support resources, all located on the Excel website and ready to download.



A closer look

The original core content has seen a number of updates and revisions to the Excel Encyclopaedia V5 up to date with the latest industry standards, including a wealth of information covering:

- Copper and Fibre Solutions
- Environ Racks and Power Distribution
- Pre-Sales Support, Installation Guidelines
- System Warranty.

In the original core content, the new and updated information is indicated in the margins throughout the chapters with a New for V5 or Updated for V5 lozenge, so veteran readers of the Excel Encyclopaedia can clearly identify which parts of the chapters provide new details.

The stand-out A-Z Glossary has also been updated with the latest industry terminology and acronyms to ensure readers can understand the full contents of the publication, regardless of their technical experience. Alongside this core content, the Excel Encyclopaedia V5 also includes a number of new chapters to cover the latest business initiatives, products/services and industry trends.

Interactive video library

As part of the release of the Excel Encyclopaedia V5, Excel has also launched a comprehensive video library. The videos are no

paedia V5

more than one minute each and are a great way to start your journey through the publication. There is a video for each chapter of the Excel Encyclopaedia V5, providing a concise overview of its contents.

The videos can either be watched directly on the Excel website, or alternatively via the Excel YouTube channel, where there is a dedicated playlist available for each language – English, French and Spanish.

You can subscribe to Excel's YouTube channel, so you can keep up with the latest videos to be added to the platform.

Next step

CLICK HERE to view the Excel Encyclopaedia V5.

CLICK HERE to browse the Excel Encyclopaedia Video Library.

CLICK HERE to visit the Excel website.

To speak to the Excel sales team call 0121 326 7557 or to send an email **CLICK HERE.**

excel without compromise.

CLICK on each section to find out more.

Providing the latest information about Excel's plastic free initiative, launched in August 2019, to remove as much single use plastic from the supply chain as possible.

Providing information about some of the key vertical markets that Excel is installed into around the world, as well as providing links to the latest case studies and reference sites.

Providing details about the new FTTX solutions available from Excel as part of the wider Enbeam Fibre Optic Solutions portfolio.

Providing overviews of the core Specialist Support Services offered by Excel including pre-terminated copper and fibre assemblies, laser engraved labelling and cabinet configuration.

Providing insight into a growing industry trend to create smarter buildings, connected spaces and intelligent infrastructure, and how this may impact traditional structured cabling designs.

Providing key information about the support that Excel offers their consultant partners, covering the CPD programme and support in bid reviews, pre-sales and post-sales meetings.

Staying power

Valerie Maguire and Lee Funnell of Siemon discuss why the latest wireless technologies like the emerging Wi-Fi 7 and Li-Fi still can't threaten copper cabling networks

Those of us who have been around the telecommunications industry for a while are familiar with the question, 'will this new technology mean the end of copper cabling?' First optical fibre cabling was the threat and now emerging technologies such as Wi-Fi 7, which is currently under development as the IEEE P802.11be Enhancements for Extremely High Throughput (EHT) amendment project, and Li-Fi (wireless communication utilising light to transmit data and position between devices) are questioned as possible successors to balanced twisted pair cabling. Let's investigate further.

'The increasing demand on Wi-Fi connectivity is driving the installation of more access points but these generally have a reduced coverage, slower data throughput and less stable connection – all of which will lead to frustration amongst connected users.'

NO STRINGS ATTACHED

It is important to keep in mind that Wi-Fi 7 is a developing application that is still far out on the horizon. In fact, the Wi-Fi 7 amendment is not anticipated to publish until 2023 and most commercial building owners are rightfully planning for upgrades to Wi-Fi 6 and Wi-Fi 6E today.

As draft Wi-Fi 7 specification begins to firm-up, however, we do know some basic information about the application's anticipated capabilities. For example, like previous Wi-Fi implementations, Wi-Fi 7 will have both associated theoretical maximum (46.1Gb/s upstream and downstream combined) and real world (>20Gb/s upstream and downstream combined) throughput.

NEED FOR SPEED

Based on its impressive bandwidth, it is tempting to think that IEEE 802.11be devices might support transmission speeds on par with structured cabling systems. However, there are two main reasons why this won't be the case:

- Since wireless is a shared media, the maximum available real world bandwidth is split between multiple users. Considering that one IEEE 802.11be access point will likely serve 30-60 clients, it is clear there is substantial opportunity

for network slow time due to lack of bandwidth depending on client needs at any given time. This is in significant contrast to a 1000BASE-T network, where each device always has the full 1Gb/s bandwidth available.

- Total bandwidth is specified differently for wired versus wireless systems. For example, since 10GBASE-T transmits in full duplex (transmitting and receiving over the same cable pairs at the same time), it operates at a maximum rate of 10Gb/s in the upstream direction and 10Gb/s in the downstream direction. This is different from wireless networks, which transmit in half duplex and whose stated bandwidth is an indication of throughput in both directions combined. What this means is that, depending on the number of clients, IEEE 802.3be devices can reasonably be expected to have access to an approximate wired equivalent bandwidth of 150Mb/s to 300Mb/s. Smaller handheld Wi-Fi devices, such as mobile phones, will have access to even less bandwidth, as they typically only have one transmission antenna to optimise power consumption.

LET THERE BE LIGHT

Daily internet growth for both commercial and social usage means, more than ever, it is essential that connectivity remains consistent and meets the demands of the end user. Even though new standards are being developed for wireless systems, the truth is that the radio spectrum is running out of available space, with little to no room to grow. The increasing demand on Wi-Fi connectivity is driving the installation of more access points but these generally have a reduced coverage, slower data throughput and less stable connection – all of which will lead to frustration amongst connected users.

Light fidelity (Li-Fi) is starting to be considered as a new office communication system, as more solutions come on to the market. Unlike Wi-Fi connections, where

the radio spectrum is used to transmit data, Li-Fi is able to transmit over visible light, ultraviolet and the infrared spectrums of light via LED lamps, which are now an integral part of the smart building technology space.

ON THE RIGHT WAVELENGTH

Put simply, Li-Fi modulates light waves to transmit data between a transceiver (the LED fixture) and, typically, a USB dongle plugged into a laptop to both receive and send data. If the lights are on, you will have a secure communication platform that is reliable and can provide data throughput over a stable connectivity platform.

Li-Fi systems are becoming more commercially available with data rates ranging from 100Mb/s up to gigabits and they also allow for enhanced security on local area networks (LANs) when compared to Wi-Fi transmitters. Visible light communications (VLC) are contained within the office space in which they serve. From a security point of view this makes it very easy to secure the data. The lack of radio frequency interference is a huge advantage over Wi-Fi and whilst some countries around Europe are raising concerns over the use of Wi-Fi and restrictions on its usage are being made, VLC is intrinsically safe.

WIRELESS VERSUS WIRED

The major shortcoming of all wireless data networks has always been the high likelihood of periodic network slowdown and saturation due to the number of clients and applications in use. The bottom line is that, unless a device is connected to a dedicated IEEE 802.3be access point, transmission speed won't even be comparable to a 1000BASE-T structured cabling network. Market statistics show that enterprises are finally migrating to 10GBASE-T in the work area and costs of higher performing and higher cost Wi-Fi access points will continue to climb.

In terms of Li-Fi, the data rate is only restricted by the level of modulation,

the quality of the system and supporting management software. However, this technology is worth looking into not only for high speed data transmission and security but pricing models. When incorporated into a digital intelligent lighting platform, this may provide a positive surprise.

NOT OVER YET

Regardless of your thoughts on Wi-Fi or Li-Fi, the critical factor is how much data can be sent to these types of devices, remembering that they need connectivity to be able to transmit. Based on the transmission rates available today and the roadmap we see ahead, it looks extremely unlikely that Wi-Fi or Li-Fi networks will make balanced twisted pair telecommunications cabling obsolete anytime soon and copper will continue to play an important role. ■

VALERIE MAGUIRE

Valerie Maguire is a distinguished engineer with Siemon. Her expertise is focused on balanced twisted pair and optical fibre telecommunications cabling and transmission theory. She is the Telecommunications Industry Association (TIA) liaison to IEEE 802.3, treasurer of IEEE 802.3, editor for multiple IEEE 802.3 Ethernet projects and has held leadership positions in TIA cabling subcommittees for eight two-year terms. Maguire holds one US patent and received the 2008 Harry J Pfister Award.

LEE FUNNELL

Lee Funnell has worked in the telecommunications industry for over 25 years. He previously held a place on the British Standards Institute (BSI) Cabling Experts Panel and been a director of the Fibreoptic Industry Association (FIA). As technical manager for Siemon he manages a large technical team supporting Siemon customers across EMEA, and is now heavily involved in the world of intelligent buildings as a council member of the CIBSE Intelligent Building Council.

Finding the one can be tricky, but making the right connections shouldn't be.

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Our powerful all-optical switching solutions ensure fast, automated and secure connectivity in your data center.

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HUBER+SUHNER

HellermannTyton

HellermannTyton is reshaping and relaunching its LAN product range. Having already said goodbye to Category 5e in 2020 and the Deca10 keystone jack earlier this year, HellermannTyton has launched its new Category 6A solution and will be introducing a whole host of exciting new products over the coming weeks.

The new Category 6A solution includes the new Cat6A jack, panels, cable and patch leads. The new jack is designed to be tool-less and does not require any specialist termination tools. The Cat6A panels come in both flat and flat-angled versions.

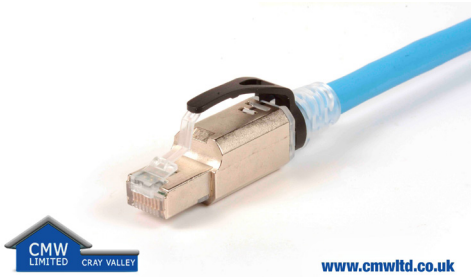
HellermannTyton will also be introducing a new range of category panels and outlets along with a selection of LC and Euro modules, faceplates and backboxes. All of the new products will be supplied in plastic free packaging where possible, so the company can do its bit for the environment and planet.

To find out more **CLICK HERE.**

www.htdata.co.uk

Cable Management Warehouse (CMW)

Available from CMW, Siemon's Z-PLUG delivers high performance 10 Gigabit Ethernet system transmission performance, whilst supporting advanced power over Ethernet (PoE) applications. This allows users to easily connect IP enabled internet of things (IoT) and smart building devices across a range of environments.



Z-PLUG exceeds all Category 6A performance requirements and can be terminated to shielded, unshielded, solid and stranded conductor category cables for maximum flexibility. It supports quick, reliable, high performance plug terminations in the field for custom length direct connections to wireless access points, security cameras, LED lights and any other PoE enabled devices.

Z-PLUG is the ideal solution for plug terminated links and eliminates additional outlets and patch cords for these types of devices. The shorter plug design with rounded edges and ability to eliminate the boot and latch protector makes it perfect for connecting to devices with limited space. These features combine to allow users to speed up deployment, improve security, enhance performance and enable more efficient power delivery.

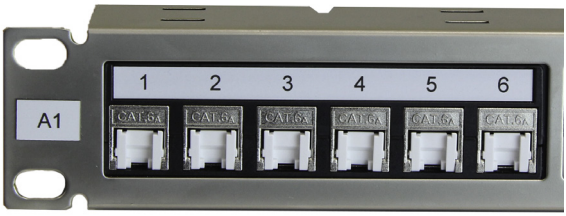
CLICK HERE to find out more.

www.cmwltd.co.uk

Patch Solutions

Patch Solutions has introduced its exclusive Category 6A six way cassette looms. These high quality pre-terminated RJ-45 cables are an ideal choice for 10 Gigabit Ethernet panel to panel links within any sized data centre – from just a few racks to a whole campus.

They are assembled using Construction Products Regulation (CPR) rated shielded Category 6A copper cable in a choice of colours, with short UK manufacturing lead times. All six cables are neatly loomed together in a smart single black braid, creating a durable, tidy and easy to handle loom to your required lengths, quantities and labelling sequence. It is possible to install up to four cassettes in a single 1U rack space, quickly creating 24 10Gb/s ports.



These cassette looms can then be enhanced further with the Brady BMP-21 printer to secure Velcro ties in multiple colours, whilst installing 'under or over cabinets' for quick visual identification. All our cable labelling solutions are competitively priced and available with a quick turnaround.

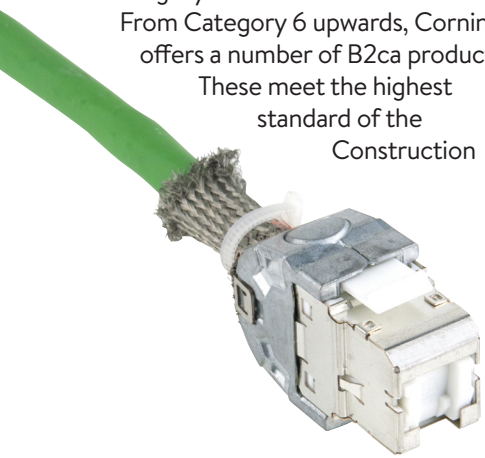
For more information **CLICK HERE** or call our knowledgeable sales team on 01442 890890.

www.patchsolutions.com

Corning Optical Communications

Corning Optical Communications offers a comprehensive range of products for all copper cable requirements. This includes Category 5e to Category 8 shielded copper cable solutions (U/FTP, F/FTP and S/FTP) and UTP cables from Category 5e to Category 6A.

From Category 6 upwards, Corning offers a number of B2ca products. These meet the highest standard of the Construction Products Regulation (CPR) for telecommunication cables intended for permanent installation inside of buildings and construction works.



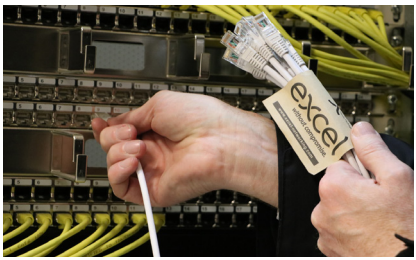
The RJ-45 Category 6A shielded and UTP jacks are a key component of Corning's copper interconnect product range. Also available in Category 6 shielded and unshielded, each jack component is able to terminate to any certified Category 6A cable and patch cord combination to achieve full channel performance. The jack's unique three cable entry points help make installation simple and the traditional one-click design enables an easy, tool-less termination on unshielded twisted pair cables.

For more information contact your distribution partner or **CLICK HERE.**

www.corning.com

Excel Networking Solutions

Excel Networking Solutions offers one of the market's most comprehensive ranges of copper cabling solutions, supplied in 100 per cent plastic free packaging. Inclusive of Category 5e, 6, 6A, 7A and 8 copper cable classes, Excel's structured cabling products constitute an end to end solution where performance and ease of installation are prerequisites.



Having evolved to face industry challenges, Excel offers high density designs as space saving solutions, such as the 0.5U patch panel and reduced diameter cabling. When a system is installed by an Excel Cabling Partner, a 25 year warranty can be awarded, covering product and applications assurance of compliance with industry performance standards appropriate to the class of copper cabling being installed.

Excel also offers a pre-terminated copper solution as part of its Specialist Support Services, which are carried out by specialised, knowledgeable technical staff and go through a rigorous quality check before delivery. The full portfolio of Excel's copper cabling products is also available in the dedicated Excel Copper Catalogue.

CLICK HERE for more details about Excel Networking Solutions and its full range of products.

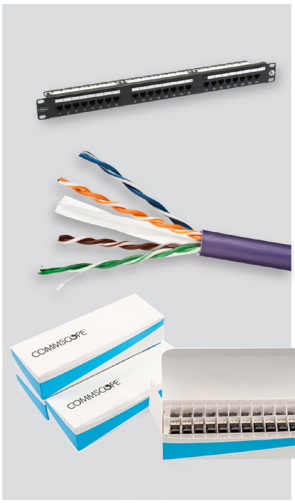
www.excel-networking.com

Comtec

Comtec, an ETC Group company, offers the most comprehensive range of branded copper cabling systems, with solutions from Draka, HellermannTyton, Molex, CommScope (NETCONNECT and SYSTIMAX), Nexans and Siemon.

Together with our own proven, long established and price competitive Ultima solution, it means we have a cabling system to support every project and every budget. With options for Category 5e, 6, 6A, 7, 7A and 8 there is a copper cabling system to support even the most demanding application.

Comtec offers everything required for your copper cabling installation including cables, patch panels, patch leads, POD boxes, work area outlets, cabinets and much, much more. With items available for free next day delivery and knowledgeable support staff, Comtec offers the service and support you need to deliver projects on time and on budget.

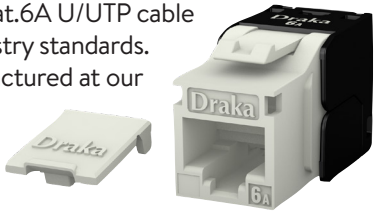


CLICK HERE to view the range online, where you can also download our handy product selectors, or contact sales on 01480 415000.

www.comtecdirect.co.uk

Draka

Draka has launched an updated Category 6A UTP B2ca cabling solution as part of its Universal Cabling System. Slim, cost effective and quick to install, this new unshielded Cat.6A U/UTP cable exceeds industry standards. Being manufactured at our Washington plant in the UK also ensures less travelled miles and off the shelf delivery by our distribution partners.



The encapsulated barrier tape within this design reduces external noise, delivering shielded like protection in an unshielded system. The UTP design brings a reduction in associated costs and installation time, offering savings in excess of 20 per cent. Its reduced diameter also makes it lighter with excellent heat transfer protection and superior flexibility, while meeting B2ca compliance.

This new cable is supported by a completely new range of connectivity products supplied in Draka's eco packaging, which is both plastic free and 100 per cent recyclable. The Draka UCS 25-year warranty is backed by the biggest cable company in the world.

To find out more **CLICK HERE.**

uk.prysmiangroup.com

Siemon

Siemon's history of innovation is reflected in its range of end to end copper cabling solutions. Its copper solutions offer best in class performance across all critical transmission parameters.

The TERA Category 8.2 copper cabling system was founded on the TERA connector. It delivers a complete end to end system that exceeds ISO/IEC Category 8.2/Class II specifications for two connector, 30m Class II channels for 25Gb/s and 40Gb/s switch to server applications in the data centre.

High performance, high speed interconnect assemblies for direct attach point to point applications in the data centre are also part of the copper portfolio and support up to 100Gb/s across an array of applications. They are available in a variety of QSFP28, SFP28, QSFP+ and SFP+ form factors including hybrid breakouts and active optical cables.

In industrial internet of things (IIoT) environments that will increasingly leverage 10BASE-T1L Single Pair Ethernet (SPE), Siemon's TERA cabling system already offers a commercially available SPE ready end to end infrastructure.

To find out more **CLICK HERE.**

www.siemon.com

Thinking along the right lines

Robert Luijten of Fluke Networks explains best practice for testing copper cabling and the pitfalls to avoid

Faulty or incomplete installation of network cabling can cause long-term issues with its functionality, as well as potentially causing accelerated failure. By following best practice techniques installers can save both time and money by doing things right first time. This approach will result in customers accepting the work faster, which is of benefit to their businesses, and manufacturer systems warranties being promptly issued.

PROJECT MANAGEMENT

Employing best practice techniques can start even before a tester is deployed to the field. The first job is to recognise that the individual with the best project knowledge, most likely the project manager, should configure the tester upfront before testing begins. Tester configuration can be done from anywhere, with remote connections being made to testers through a web browser using a cloud service. This means that the project manager does not have to travel to site.

Making use of cloud services in this way, ahead of the tester being used in the field, allows testing to be performed by entry level technicians. It also avoids simple errors that are easily and commonly made when field technicians configure testers, while being pressed for time to

'Good recordkeeping is a smart practice across most industries and is particularly important in copper cabling installations. Effective recordkeeping enforces installation accountability and integrity, helps to resolve disputes and facilitates more efficient troubleshooting.'

start testing. Another critical step is for the project manager to keep track of what is going on in the field. This means field technicians should upload results to the cloud multiple times a day by, for example,

tapping sync just before taking a break. Besides preventing data loss, it gives instant visibility of job progress and the ability to review measurement data on any device that has a web browser.

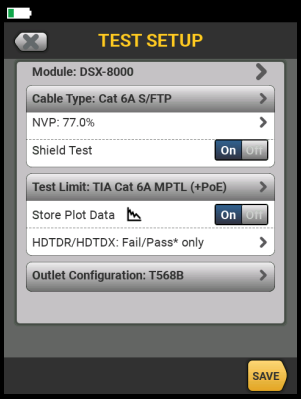
Being able to see any unexpected project details, like the wrong test limit or an unexpected label ID, is of great value, as an issue can be rectified whilst the job is being completed. The project manager can compare data received against documentation, such as the contract or statement of work, and endorse them if they are correct or take corrective action if there is a problem. The obvious advantage is that all mistakes in project configuration will be caught at the very beginning of the test phase. Discovering and fixing them only towards the end of the testing phase is much more costly.

NORMATIVE REQUIREMENTS

Selecting the correct test limit ensures all required measurements are made in the specified frequency range. If tests are performed against the wrong limit, a team may even have to return to the site to redo the work. This can seriously impact profitability and cause the installer to incur liability risks.

Besides testing in accordance with the field test specifications defined in ISO/IEC 11801 or ANSI/TIA-568, it may be highly desirable to test additional parameters as well. For example, for the proper functioning of power over Ethernet (PoE), the resistance unbalance within a pair and between pairs is best tested, although considered optional for installation conformance testing.

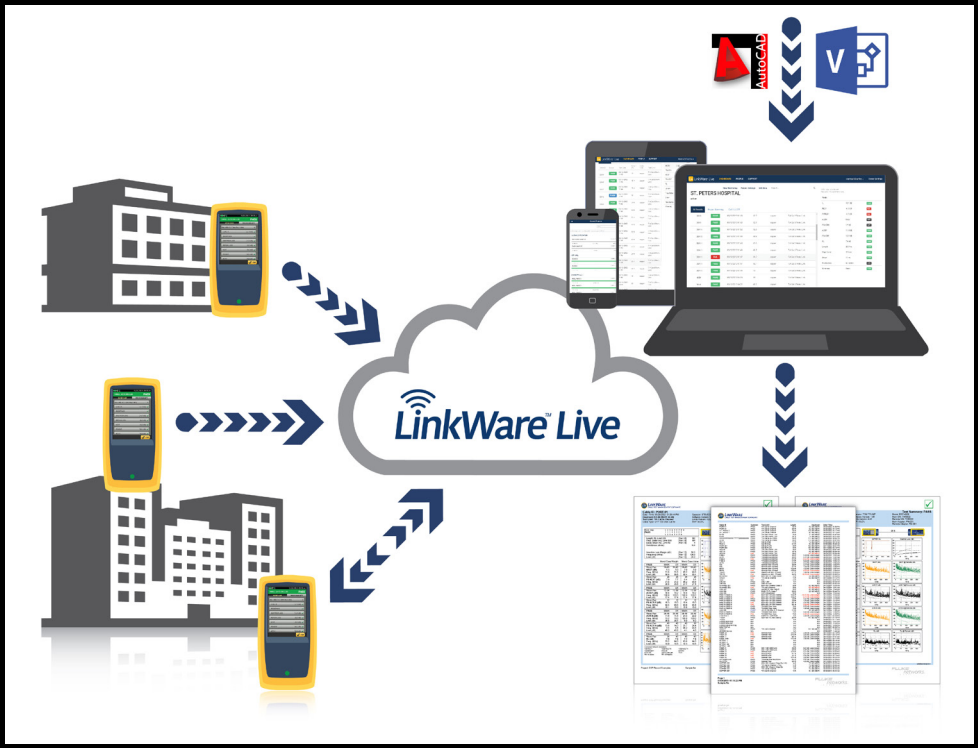
When testing permanent links make sure you use a permanent link adaptor with a tip that is fully compliant for near end crosstalk (NEXT), far end crosstalk (FEXT) and return loss. When testing modular plug terminated links (MPTL), those links with a field terminated plug at the far end, make sure a patch cord adaptor that matches the rating of the plug that is being tested is used to connect the link to the tester. A channel adaptor cannot be used because it will ignore the mated NEXT of the plug into the channel adaptor.



BACK TO BASICS

Even though the project manager may have configured the tester, it is still important for field technicians to take the time to verify some of the basics before beginning to test:

- Are you using the most current version of the tester software?
- Is the tester within its operating temperature range?
- Is the tester calibrated?
- Are you using the appropriate test adaptors that match the rating of the installation?
- Has the test reference recently been set? It is recommended to set the reference on a regular basis and at a time that is easy



to remember (such as the start of each day).

Completing this simple checklist prior to the actual certification will avoid the need to replicate tests.

PROBLEM SOLVING

The best practice for troubleshooting is to test with a cable tester that produces diagnostic information for the cabling link that fails or marginally passes – a so called pass* result. All links must pass before a manufacturer will issue a warranty statement. Powerful troubleshooting capabilities in a tester allow technicians to quickly isolate and repair installation problems, saving time and, ultimately, costs.

For tough problems, a cloud service can be invaluable. Results can now be shared with support specialists, consultants and/or a manufacturer's application engineers, whilst the project manager maintains full control of who sees what. In this way, security is maintained but expert advice is available to field technicians when it is required and is only a few clicks away. This allows many more potential issues to be resolved on the day without having to return to site.

ON THE RECORD

Good recordkeeping is a smart practice across most industries and is particularly important in copper cabling installations. Effective recordkeeping enforces installation accountability and integrity, helps to resolve disputes and facilitates more efficient troubleshooting.

In larger projects, when multiple testers are being used, as well as projects that include both copper and optical fibre infrastructure, data consolidation is often a cause of huge delays. Document controllers are sometimes even hired to prepare test reports. Best practice is to use a cloud service that automatically deals with this task, reducing the cost and the associated headache of bringing test reports together in this way.

DELIVERING THE GOODS

The value of adopting best practice strategies to copper testing can be realised in both the time saved and in costs to the business. Having the right equipment for the job is only part of the solution. Whilst the right equipment can expedite the process, best practice techniques ensure optimal efficiency for installations and testing. Employing a right first time approach to all installations not only improves efficiency but can strengthen relationships with customers and expedite warranty certification. ■

ROBERT LUIJTEN

Robert Luijten is Fluke Networks' EMEA training manager. A true test and measurement expert, with more than 38 years of experience, he was responsible for the European launches of the Fluke Networks DSP-4000, the DTX CableAnalyzer, as well as the Versiv cabling certification system.

Quick clicks

Your one click guide to the very best industry events, webinars, electronic literature, white papers, blogs and videos

How Far Can You Go with Top-of-Rack? is the question posed in a blog by Ryan Harris of **Siemon.** **CLICK HERE** to find the answer.

The Fastest Growing Telco Opportunities In 2022 is a white paper from **Juniper Research.** **CLICK HERE** to download a copy.

Future of Hyperscale Data Centers is a blog by **Corning Optical Communications** that examines how edge computing and high performance computing (HPC) are affecting their evolution. **CLICK HERE** to read it.

4 Digital Infrastructure Predictions Defining the Next Decade is a blog by Milind Wagle of **Equinix.** **CLICK HERE** to read it.

The Race to the Connected Future is a research report from **Telehouse Europe.** It provides a clear barometer of IT maturity progress for five key enterprise sectors – financial services, retail, logistics, manufacturing and private healthcare. **CLICK HERE** to read it.

Winning in the Data Center Land Rush Requires Flexibility and Commitment is blog by Nancy Novak of **Compass Datacenters.** **CLICK HERE** to read it.

Schneider Electric has published its Guide to Environmental Sustainability Metrics for Data Centers, which proposes five categories including 23 key metrics for data centre operators. **CLICK HERE** to download a copy.

Brave new world

Josh Buis of Vantage Data Centers examines the latest developments in the global colocation data centre market and looks at what the future has in store

We are seeing strong demand for high quality and scalable data centre facilities across the globe. According to a recent report by Synergy Research Group, the number of hyperscale data centres has doubled over the last five years to around 700. The average data centre size is also increasing, with total hyperscale data centre capacity notably on the rise in the last four years.

NUMBER CRUNCHING

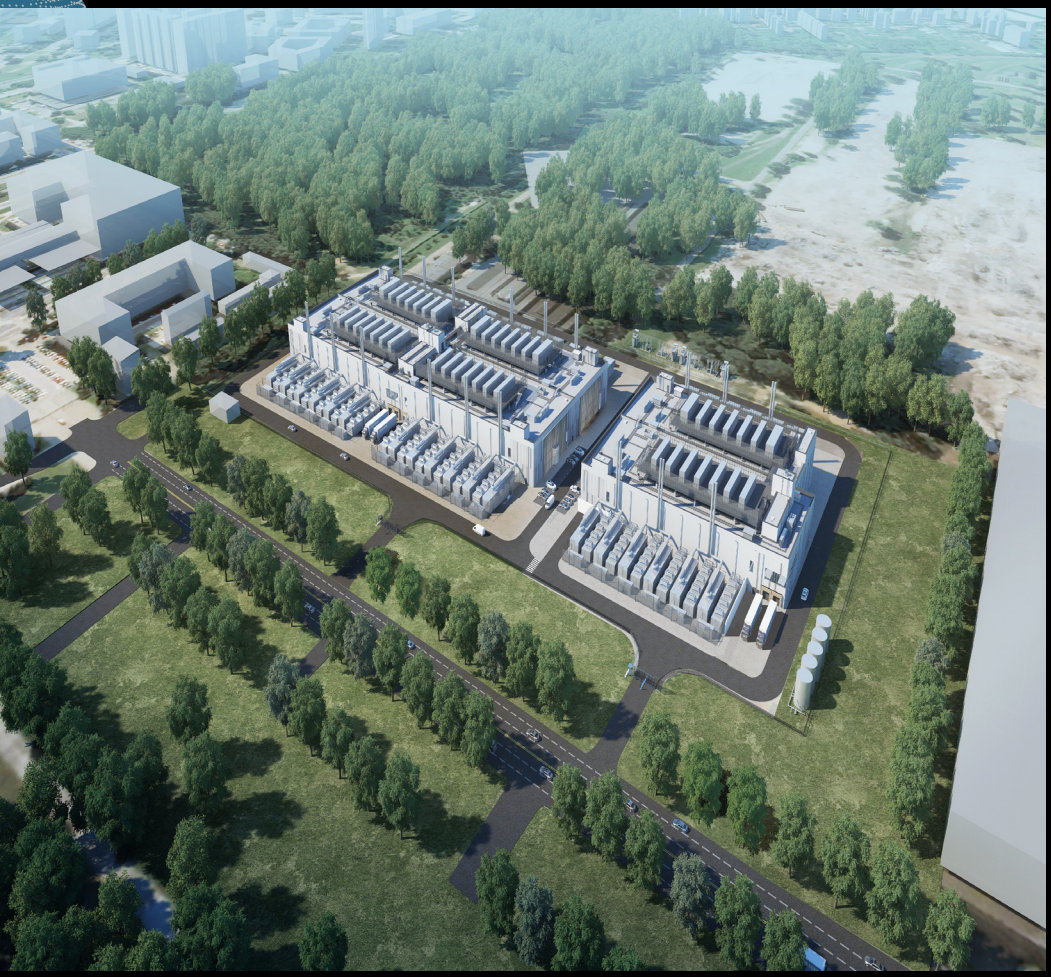
Based on the research findings, just over half (51 per cent) of all hyperscale data centre facilities are now outside of the US, based on critical IT load. And while China, with 15 per cent market share, is the next biggest single country contributor to hyperscale data centre capacity after the US (49 per cent), Europe, Middle East and Africa (EMEA) (19 per cent) and the rest of the Asia-Pacific (APAC) (13 per cent) regions are notable powerhouses.

Though hyperscale cloud operators are leading the charge for yet more space in more locations around the globe, demand for colocation and private/hybrid cloud hosting services from the enterprise sector is also an important contributing factor to this growth. Both cloud provider and enterprise organisations now have far more choice and greater opportunities to bring their services closer to their customers. As with many of the hyperscalers, enterprises recognise that the increasing availability of high quality third-party data centres offers many benefits versus the alternative of operating their own self-build/managed solutions.

MONEY MATTERS

First and foremost, end users are relieved of the burden of capital expenditure (CapEx) and the time required in attempting new builds, not to mention finding skilled engineering and construction personnel in each market, leaving this and the planning permits and permissions red tape in the hands of the operators. Further advantages include the total assurance of running their servers and IT systems within data centres offering maximum physical security, with access to the latest critical infrastructure, cooling and energy management systems, and forward power and space.

Another major plus point will be the ability to connect directly to a wide choice of diverse on-site carrier and service provider optical fibre network solutions – optimising data transmission performance and ensuring low latency. All the above



means they can grow commensurate with increased demand. Reducing the risk of construction becomes more critical the further end users get from major city centres. Developing in Africa or the Middle East, for example, can pose significant challenges that increase cost, risk and timelines for self-managed projects. Privacy laws that require data to stay within the geographical boundaries of a country are also contributing to the growing need for more data centre availability in so called Tier II markets.

PREDICTIVE TEXT

From a global data centre provider's perspective, the forecasting and tracking of future hyperscale or enterprise capacity requirements is extremely dynamic. However, with such accelerating and changing demand, today's data centre providers must be ready to respond quickly in both traditional and new markets to achieve a competitive advantage, while also bringing more choice and flexibility to new and existing customers.

In Europe, though the traditional

Frankfurt, London, Amsterdam, Paris (FLAP) markets remain as vital as ever, the European data centre map is expanding rapidly. The challenges the FLAP markets increasingly face relate to available land and power, so data centre developers are looking further afield for new, untapped locations for siting their colocation and hosting facilities. Instead of building one or two massive data centres in the FLAP areas, it is beginning to make far more business sense for cloud providers and enterprises to look to highly scalable, localised colocation operations.

ON THE MOVE

Central and Eastern European governments are accelerating the digital transformation of their countries, bringing more demand for colocation and cloud hosting data centre providers. In turn, providers are taking advantage of available land, competitively priced power and rich connectivity. Poland is taking the lead as the digital hub between Western and Eastern Europe. Moreover, Switzerland has recently experienced a notable number of new hyperscale additions. The country has distinguished itself from its neighbours by its political and regulatory environment, along with its high bandwidth and central location in Europe.

The coronavirus pandemic has also added to the urgency for European cloud providers to expand beyond the traditional FLAP markets and regionalise their data centre strategies. Rising demand for content, streaming and collaborative services is driving the need for data centres to be located closer to customers to reduce latency. A few notable examples of growth in the Tier II and emerging markets are Berlin, Munich, Hamburg and Dusseldorf. In addition, Milan is quickly becoming a hotspot for cloud providers including Amazon Web Services (AWS) and Microsoft.

BEYOND EUROPE

Africa presents huge untapped growth opportunities for hyperscalers. In many ways Africa will be less challenging and easier to digitalise than mature markets such as Western Europe and North America where legacy IT, existing infrastructure and an ingrained chief information officer (CIO) culture can prove

'The Africa Data Centres Association reports about 30 Tier III data centres have come onli across the continent since 2016. It estimates Africa will need 1,000MW of capacity and 70 data centre facilities to meet growing deman

resistant to change.

Demand is steadily increasing in Africa. The Africa Data Centres Association reports that about 30 Tier III data centres have come online across the continent since 2016. It estimates that Africa will need 1,000MW of capacity and 700 data centre facilities to meet growing demand. This will bring the whole of the continent on level terms with the capacity and density now being seen in South Africa alone. Here, Johannesburg is the data centre hub for sub-Saharan Africa due to its strategic location, IT ecosystem, fibre connectivity to the rest of Africa and the availability of renewable energy. However, as the industry continues to grow off the back of Africa's growing cloud economy, there will be a greater need for large scale data centres in strategic locations across Africa.

Asia Pacific is another high growth region including Hong Kong, Japan, Malaysia and Australia. Canada also remains one of the most in-demand geographic locations for hyperscale companies, with a plethora of connectivity options and abundant, clean sustainable energy. Meanwhile, Montreal is ideally located for hyperscalers looking to deliver service to customers in large east coast cities in both the United States and Canada with limited latency.

FAST MOVING

There is no doubt that the data centre industry is now truly global. Data centre providers must be highly agile. They must have the ability to predict and respond quickly to satisfy customer demands and requirements for scalable, future proof facilities – wherever in the world they need to be. ■

JOSH BUIS

As senior vice president of business development at Vantage Data Centers, Josh Buis is responsible for activity across EMEA and APAC, as well as developing and executing the strategic direction for geographic expansion and evaluating growth opportunities in new, emerging and international markets. With more than 18 years of experience in sales, business development, site selection and acquisition within the data centre industry, Buis is an experienced leader and paramount to Vantage's global growth.

Centiel

When it comes to uninterruptible power supply (UPS) installations, making an intelligent choice from the range of topologies available is key. Certainly, when the need to employ a cost effective solution comes into play, this is where standalone UPS systems can offer a point of difference.

Much consideration has gone into how standalone UPS systems are designed and manufactured. Today's systems are much smaller, with front access for service and maintenance. The highest quality systems include some of the key features of modular technology, including a triple-mode communication bus designed to remove single points of failure in a parallel configuration.

Efficiency has improved. For example, Centiel's standalone UPS systems have efficiency levels of 96.6 per cent in true online double conversion, as well as enhanced overload and fault clearing capability. This helps when implementing these systems into electrical infrastructures.

The overall quality of the build of standalone UPS systems has improved too. At Centiel we have used the lessons learned developing the highest standard of modular technology and worked on implementing this into our standalone UPS range – PremiumTower. The introduction of front access design and the change of location for extractor fans means that UPS equipment can now be positioned with zero clearance requirements to the side and rear. The latest technology also allows major components to be isolated for repair or replacement, which dramatically reduces downtime.

Centiel's PremiumTower is a three phase, online double conversion UPS, which is designed to maximise efficiency and minimise footprint and is now available in a range of sizes from 10-250kW in a single frame. PremiumTower provides an excellent solution for small and medium sized data centres, comms rooms, IT networks and any mission critical application that demands high availability and unbeatable energy efficiency.

PremiumTower employs the same Swiss build quality and innovative technology that is seen in Centiel's CumulusPower true modular solution. However, it comes in a lower cost, standalone version that is ideally suited to applications where minimising total cost of ownership is a significant factor.

For more information **CLICK HERE.**
www.centiel.co.uk

Cable Management Warehouse (CMW)

In most markets, Category 6A/Class EA copper twisted pair cabling has dominated in the data centre for 10 Gigabit Ethernet links. As the demand for high speed, low latency access to information continues to grow, server interconnect speeds are increasing beyond 10Gb/s and the feasibility of twisted pair copper cabling.

This is where the comprehensive range of high speed interconnects (HSI) from Siemon, including straight through/breakout direct attach cables (DAC) and active optical cables (AOC), can provide the perfect solution for your point to point needs.

CMW LIMITED CRAY VALLEY

www.cmwltd.co.uk

These cables are competitively priced and available in various lengths (in half metre lengths from 0.5m to 3m and full metre lengths up to 10m), different colour options and are fully multi-source agreement (MSA) compliant to ensure interoperability with equipment from various vendors. All cords arrive factory tested to meet or exceed industry standards and are available in a range of form factors (QSFP28, SFP28, QSFP+, SFP+) to support 10Gb/s to 400Gb/s applications.

CLICK HERE to find out more.

www.cmwltd.co.uk

AFL Hyperscale

AFL Hyperscale is the first manufacturer focused on data centre cabling and connectivity solutions. When it comes to colocation, we have a deep understanding of the importance of flexible, scalable, high performance optical fibre networks, so your tenants can grow and connect on demand – whether they are a hyperscaler renting one floor or a small to medium sized enterprise (SME) renting one rack.

Our H-Series modular solution is designed specifically for colocation data centres and uses shallow depth housings (<300mm) to leave more floorspace for customer areas or to grow the core network. Both 4RU and 7RU H-Series housings feature space for up to 24 frontloading, high density, front access cassettes that are fast to install and can support flexible connectivity options, including LC and MPO, along with single and mass fusion splicing.

The H-Series is easy to install, maintain and grow when connected with our made to measure pre-terminated assemblies or our game-changing range of SpiderWeb Ribbon fibre cables.

To find out more **CLICK HERE.**

www.aflhyperscale.com

Proximity Data Centres

Proximity Edge 7 in Swindon is part of Proximity Data Centres' expanding UK network of interconnected regional edge colocation data centres, which also includes sites in Birmingham, Bridgend, Nottingham, Rugby, Liverpool, Chester Gates and Wakefield.

Conveniently accessible by road and rail, with easy access to digital optical fibre routes connecting London to Ireland and the USA, Swindon is ideal for serving businesses along and near to the M4 corridor. This includes the congested data centre conurbations of Slough and West London, allowing Proximity Edge 7 to act as a cost effective overflow facility. It is also within easy reach of the research and development hub at Harwell, which is home to numerous organisations involved in biotech, genome and space tech.

For businesses requiring greater competitive advantage by moving data, applications and content closer to users, Proximity Edge 7 delivers low latency and optimised data transit costs. The secure, resilient Tier 3 facility provides capacity for up to 2,000 racks, with a total of 7MW power currently available and the potential to increase this to 14MW.

To find out more **CLICK HERE.**
proximitydatacentres.com

Excel Networking Solutions

Excel Networking Solutions' comprehensive range of Environ racks, cabinets and open frames offers exceptional quality. They are suitable for a wide range of applications in the enterprise, data centre and security markets, as well as for everyday cabling systems. The full range, which is available for free next day UK delivery, can be viewed in the dedicated Environ digital catalogue.

Designed specifically for use by facilities where rack space is being used by different clients within a shared facility, and where security is paramount, the Environ Co-Location (CL) Series of racks have all the existing qualities of the Environ range and feature secure and lockable compartments with unique keys to ensure optimum protection of the cabling infrastructure.

Excel also offers a pre-configured cabinets and on-site rack assembly service, which is proven to reduce installation cost and time whilst providing a fully tested, fully traceable and 100 per cent inspected product.

CLICK HERE for more details about Excel Networking Solutions and its full range of products.
www.excel-networking.com

EDP Europe

ServerGuard from EDP Europe is a newly developed in-rack physical security solution that enables clients to achieve or exceed compliance standards. Originally designed for a client that needed to secure and manage access to servers that were handling highly sensitive encryption keys, ServerGuard allows customers to provision dedicated access control for individual servers or groups of rack mounted equipment.

EDP ServerGuard features a custom engineered steel subframe with front and rear electronic access control, proximity card and biometric reader offering dual authentication. A further option for adding CCTV is also included within the design.

By physically securing individual systems within a rack, ServerGuard enables clients to achieve their security and compliance objectives by having full visibility, control and an audit trail of activity across their mission critical systems. ServerGuard can be tailored to an individual customer's needs, manufactured and supplied fully assembled ready to plug and play within a short lead time.

For more information call 01376 510337, **CLICK HERE** to send an email or to visit the EDP Europe website **CLICK HERE. www.edpeurope.com**

Attracting attention

Joe Palmer of Colt Data Centre Services (Colt DCS) looks at the reasons behind the data centre skills shortage and what needs to be done about it

Attracting and maintaining technology talent is a constant industry-wide battle. The challenge is particularly daunting in the data centre world – in fact, there is mass talent shortage predicted, where the sector will be 300,000 employees short over the next five years. With this crisis point looming, data centre companies must act now in order to maintain and strengthen its talent pool for the future. But what's causing this mass skill shortage? And how can the industry recover and prepare?

CAREER CHOICE

There are several factors affecting the skills gap in the long-term. On one hand, it's painfully clear to see the industry needs to do a better job of promoting itself. This is exacerbated by the fact science, technology, engineering and mathematics (STEM) graduates are in a strong position, as there are such a range of opportunities on their doorsteps.

While many graduates will have heard of the cloud, very few understand what it actually is and how it impacts our lives – the modern ways in which we work, shop, socialise and date online reside within a giant warehouse on the outskirts of a town somewhere. Tech giants like Spotify, Netflix and Google make headlines on a daily basis, and have students applying in

their hundreds for graduate schemes, so the data centre industry needs to be bolder in its approach and put up a fight for this talent.

CALL TO ACTION

Too few also haven't grasped how important data centres have been during the coronavirus pandemic. Working from home, conceptually, would not have been able to happen if there weren't massive data centres processing hundreds of megawatts of information all the time throughout the world.

In addition, there is a misconception that data centre roles are only suitable for those with technical backgrounds. The industry has a wealth of opportunities, with new and emerging roles being established frequently. For example, as the industry puts greater emphasis on sustainability, this team will need a boost of varied talent for the differing roles.

The industry as a whole should definitely shift the focus to developing and rolling out better learning programmes and building those pathways for future graduates. No matter the course a candidate has completed, companies should be able to help them learn on the job and hone the necessary skills to succeed if they aim to have a specialised workforce and avoid serious understaffing. As an industry, we have to pivot in terms of what we're investing in, in order to grow.

MISSION CRITICAL

Awareness needs to be raised that not only are data centres critical to the digital lives we lead today, but that the industry is also an exciting, diverse and evolving place that could take an individual's career in a number of directions. Only then will graduate schemes and job roles grab the attention of students, graduates and the existing workforce.

The data centre industry has yet to really embrace the depth of talent diversity and inclusion can bring forth. Although the industry has been around for around 25 years, it isn't mature in this area. Having an efficient diversity and inclusion programme in place is not only the right thing to do but it's also a massive business advantage. For instance, some organisations facing a shortfall in talent might ask themselves

questions such as why are we still looking at the same set of universities? Are there alterative recruitment methods? How can the data centre industry be front of mind earlier in education?

> 'Awareness needs to be raised that not only are data centres critical to the digital lives we lead today, but that the industry is also an exciting, diverse and evolving place that could take an individual's career in a number of directions.'

MIND THE GAP

In addition, data centres might sometimes be part of the gender gap issue, like to other technology sectors. Whether it's applying for a job or aiming for promotion, men and women's approaches tend to differ – several sources have shown that male candidates are more likely to apply for a job they might be underqualified for, while women feel they must meet a threshold before submitting an application. That tendency might continue on down through a working life.

To bridge this gap, at Colt DCS we spend

our time looking at job descriptions and the overall process to make sure these are as gender neutral and as broad and inclusive as they can be. To overcome the issue of the increasing skills shortage and to diversify our workforce, we don't focus on finding a person that is fully equipped for the job. Instead, when selecting candidates, we aim to identify any transferrable skills. It is much more beneficial to find employees with great potential, who we can then offer development programmes to hone industry specific skillset. It is an effective way to open up the talent pool and to be more diverse in terms of potential and future workforce.

The remote work model has been largely possible due to cloud technology and the support of data centres. Aside from greater working flexibility, this gives companies an opportunity to broaden the talent pool, which is also applicable to the data centre industry. Future hybrid working models could be the key to help somebody who has these great tech skills be able to work for your company.

ACTION PLAN

Combating the skills gap is one of the data centre sector's biggest challenges. However, if businesses commit to changing their attitudes and taking the right actions, there are huge opportunities for the industry's future. ■

JOE PALMER

Joe Palmer is vice president of human resources at Colt DCS. He is an experienced human resources director with a history of working in the information technology and services industry. Palmer is skilled in consulting, employee relations, workplace engagement, technical recruiting, management, applicant tracking systems and workday, with a UK and international employment law background.

MediaCity premieres new security system from Axis Communications

MediaCity in Greater Manchester has greatly improved the safety of its tenants and visitors by deploying an IP based solution to improve security across the 200 acre site.

An integrated video, audio and data analytics solution from Axis Communications is now protecting some of the UK's largest media powerhouses, such as the BBC and ITV, without detracting from the energy and vibrancy of the surroundings.

It had become increasingly clear in recent years that MediaCity's analogue surveillance system was outdated and no longer fit for purpose. RS Security Consultants was tasked with auditing the site's security architecture and recommending a new system. Axis Communications' IP security system was deployed to deliver high quality video surveillance with real time security alerts to a central control room. The solution also reduces ongoing maintenance costs and is in keeping with the hub's sustainability and cybersecurity goals.

Secure IT Environments installs containerised data centre for NNUH

Secure IT Environments has handed over its latest ModCel containerised data centre project to Norfolk & Norwich University Hospital NHS Foundation Trust (NNUH), which has 1,200 beds and carries out one million outpatient appointments, day case procedures and inpatient admissions annually.

Based on Secure IT Environments' bespoke ModCel energy efficient containerised data centre solution, it was constructed and fitted out off-site. All design and update meetings were conducted virtually, with no site visits conducted in-person by Secure IT Environments before installation. The project was completed in its 90-day planned schedule and to budget, with Secure IT Environments also awarded a five year maintenance contract for the data centre.

The ModCel containerised data centre comprises two units each measuring 10mx3.1m, supporting a total of 14 server cabinets. It includes all the critical mechanical and electrical systems needed including downflow precision air conditioning in 2N redundancy configuration, modular uninterruptible and electrical infrastructure in 2N configuration, NOVEC 1230 fire detection and gas extraction systems.

Supernap Italia delivers hyperscale data centre on Milan campus

Supernap Italia has opened a second data centre on its Milan (Siziano) campus. The new facility, comprising two independent data halls, brings the company's active campus to 100,000m² and 40MW of power.

Supernap Italia's data centres enable maximum efficiency, flexibility, reliability and security, guaranteeing zero downtime, with 24x7 access control and monitoring. The company is also committed to environmental sustainability, providing 100 per cent certified green energy to all customers and boasting a Power Usage Effectiveness (PUE) rating well below the industry average.

Supernap Italia chose Siziano in 2015 because of the area's unique advantages including easy access to major highways and railways, low seismic risk and the ability to implement dedicated connectivity infrastructure and develop electrical substations, as well as its proximity to Milan.

PROJECTS & CONTRACTS IN BRIEF

UNESCO and Huawei have launched the implementations phase of the Technology-Enabled Open Schools for All (TeOSS) project in Ghana, Ethiopia and Egypt. TeOSS will serve as a basis for powering the digital transformation of the education sector and support the three UNESCO member states in building resilient education systems.

Simwood has announced a new point of presence in Wales, as it extends its network to Vantage Data Centers' facility in Cardiff. Simwood's network will now also be visible at LINX Wales, the regional interconnection facility run by the London Internet Exchange (LINX).

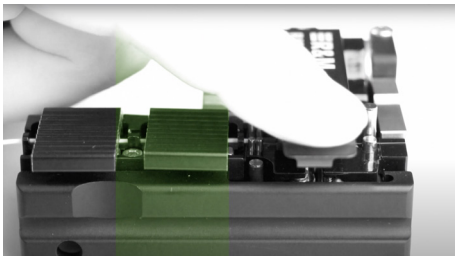
Nokia and CityFibre have trialled the UK's first 25Gb/s passive optical network (PON) to support 5G transport. The digital campus testbed was set-up at the University of Glasgow, with three 5Gb/s sites backhauled to the core.

Delphix has accelerated California State University's (CSU) digital strategy by providing secure access to data to support student application development. The nation's largest four year public university can now provide its 23 campuses with data on-demand to implement their own digital strategies.

Cellnex UK and Everynet have signed an agreement to promote the roll out of new networks in the UK. The internet of things (IoT) networks are based on LoRaWAN technology and will be deployed on Cellnex UK's extensive telecommunications infrastructure networks and rely on Everynet's carrier grade and secure IoT network solution.

R&M

R&M has introduced an innovative field terminable optical fibre connector that can process fibre to the home (FTTH) butterfly cables quickly and reliably for fibre in the home (FITH) applications, based on numerous partners' practical experience and feedback. FO Field 2.0 can contribute to significant cost savings, especially in blanket fibre rollouts, eliminating the high number of experienced splicers and amount of splicing equipment required for a conventional rollout.



Innovative clamping technology fixes the cable jacket in place, as well as the optical fibre inside. The FO Field 2.0 can be rewired several times and application tests show that the connection is significantly more stable and resistant than comparable solutions. Transmission properties and attenuation values are fully retained.

High mechanical stability and optical performance also enable the solution to be used in the 'uncontrolled' (-25°C to +70°C) range – great for outdoor use, where stable connections are required, especially in case of fluctuating temperatures and high humidity.

CLICK HERE to find out more and to watch the video **CLICK HERE.**

rdm.com

Rittal

Rittal's VX IT is the world's fastest IT rack. Conceived as a universal and modular variant kit, the solution can be used as a network and server enclosure in a variety of edge applications.

All VX IT variants have been tested and certified with all their components in accordance with international standards such as UL 2416, IEC 60950 and IEC 62368. This means there is no need to additionally certify the finished, configured system.

With VX IT, companies can implement new infrastructures at unprecedented speed – from a single network rack to a complete edge data centre. Rittal maximises the full digitalisation potential for the benefit of its customers. The entire process from selection, configuration and ordering through to delivery is digitally supported and transparent. During configuration, the 3D model is assembled piece by piece and the finished 3D model is available for reuse by the user.

CLICK HERE to find out more.

www.rittal.co.uk

NetAlly

NetAlly has announced the availability of AirMapper InSites for automated analysis and visual troubleshooting of Wi-Fi networks. InSites continues NetAlly's mission of simplifying Wi-Fi site surveying for everyone by automating the analysis of coverage, signal to noise ratio (SNR), interference, beacon overhead and more.

A simple pass/fail dashboard of survey results eliminates the need for specialised expertise and time consuming manual evaluation. With InSites, AirMapper measurements are automatically graded against configurable thresholds and it allows users to directly view the specific heatmap to quickly identify trouble areas.

With AirMapper, users of NetAlly's EtherScope nXG and AirCheck G2 instruments can quickly gather location based Wi-Fi measurements and create visual heatmaps of key performance metrics in the free Link-Live Cloud Service. Ideal for quick site surveys for new deployments, validating changes, visual troubleshooting and fast performance verification, NetAlly is the first to provide a complete site survey and wired/wireless analysis solution in a handheld instrument.

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Easy does it

Ian Jeffs of Lenovo explains why hyperconverged infrastructure (HCI) paves the way for a simplified and more secure future

Removing the complexity of legacy architecture in favour of simplicity is one of the fundamental benefits afforded to companies wishing to invest in HCI in their data centres. Unlike legacy systems, HCI combines server, storage and networking into single, cluster ready nodes – eliminating much of the complexity associated with traditional three tier IT systems. HCI providers also partner with virtualisation and security software specialists, meaning that data management and security can be effectively harnessed without requiring a great deal of input. Ultimately, simplicity exists beyond the infrastructure itself and reaches other parts of the IT enterprise.

SUPPORT STRUCTURE

This is important for busy technology teams that are being asked by boardroom leaders to support business innovation, whilst also protecting their organisation and its data against evolving security threats. A UK government survey published in March 2021 highlighted that four in 10 businesses had experienced cybersecurity breaches or attacks in the previous 12 months.

Against this backdrop, technology teams large and small need to operate smartly if they're to meet their challenging goals. HCI can help teams streamline processes, enabling them to maintain continuity of IT service and manage data security. This frees up skilled resources to focus on high value business innovation.

A CENTRALISED APPROACH

Managing traditional three tier on premise IT environments typically requires input from specialists in storage, servers and networking, as well as other areas such as virtualisation. This results in complex and potentially time consuming processes.

One of the strengths of HCI is that it brings many of these component parts

together. A vendor typically provides centralised system administration and management tooling covering the servers, storage and networking – and potentially also other data centre infrastructure, edge devices, virtualisation software and endpoints.

This consolidation means the environment can be run by a smaller team, with any one individual able to address issues arising at any level, from resource provisioning to administration, restoring, performance upgrades and patching. As a result, an organisation can deliver the same, or better, levels of IT service with fewer resources – meaning skilled individuals can be freed up to focus on strategic innovation work.

THEORY OF EVOLUTION

While this means a move to HCI will require an evolution of an IT team's skills base, it doesn't need to be a steep learning curve. Smart organisations are choosing HCI platforms that align with existing investments, enabling them to leverage skills they already possess in technologies such as VMware, Microsoft or Nutanix.

> 'It's well established how crucial data is to business innovation and HCI in the data centre offers increased simplicity within its centralised structure, which will be conducive to digital transformation.'

Furthermore, HCI security can align with cloud security. Many organisations are in the process of moving workloads to the cloud. Choosing

an HCI platform based on virtualisation technology from a vendor that also offers cloud services means organisations benefit from a degree of security alignment. This goes between their workloads running on HCI and those in the public cloud. As well as streamlining day to day security management across the wider estate, this alignment can accelerate future migrations to the cloud.

CONSOLIDATED PATCHES

One of the most important aspects of keeping IT up to date – and thereby protected against security threats – is to apply patches in a timely way. However, there are complexities in doing so including the need for downtime, or to test whether a patch for one component affects another. This means it's not uncommon for organisations to leave their infrastructure unpatched and vulnerable for long periods.

Companies that utilise HCI providers to address these challenges and offer fully tested, consolidated patches that cover all aspects of a company's solution will be best protected against security threats. Crucially, an HCI solution that offers full protection must be fully integrated so that patches for other parts of the stack are then bundled in with HCI updates, where appropriate. Put together, these measures mean HCI makes staying up to date quicker, easier and lower risk, thereby helping IT teams provide maximum protection against threats and vulnerabilities.

BUSINESS AS USUAL

If there is a security incident at infrastructure level, recovery of a hyperconverged environment typically requires fewer systems to be restored compared to a conventional three tier data centre. This is therefore generally quicker. Recovery can also be accelerated by selecting HCI platforms where the vendor has integrated solutions from leading security, back-up and recovery vendors into its centralised management software.

HCI platforms also have disaster recovery features built into them, often in the form of back-ups, snapshots of data or clones, which enable them to become more robust against external threats. These features provide companies with self-assurance that their data is protected in the event of a security breach.

Real time replication of data across the cluster helps minimise data loss, while a clustered design can further accelerate restore time after security incidents, such as ransomware attacks, resulting in reduced application downtime. Furthermore, HCI platforms have a multi-node architecture and built-in fault tolerance, which make it much easier to restore data in the event of a cyberattack or equipment failure.

REDUCED COSTS

The efficiency and security benefits are both compelling arguments for companies adopting HCI platforms, as is the cost saving element. Hyperconverged infrastructure generally requires fewer servers than legacy systems, as a result of consolidated hardware resources. It has a greater degree of power efficiency and cooling requirements, meaning that HCI platforms have a smaller data centre footprint.

In addition, businesses can purchase HCI software and build their own HCI platforms, using a reference architecture to help with the process. This also means IT teams can be more flexible and avoid the

rigidity of pre-built HCI software. This is because they can decide how to combine and configure resources based on their specific requirements and intended usage.

A SECURE FUTURE

It's well established how crucial data is to business innovation and HCI in the data centre offers increased simplicity within its centralised structure, which will be conducive to digital transformation. It's also true that at a time when data has never been so vulnerable to cybercrime, HCI empowers companies with improved security. This is because it accelerates restore time after security incidents and consolidates patches bundled in with HCI updates. If companies can enjoy such benefits, whilst saving on costs, then HCI will no longer be a luxury – rather an essential function for business innovation and data storage. ■

IAN JEFFS

Ian Jeffs has been general manager at Lenovo since June 2020. He has over 25 years of experience in senior roles in the PC and data centre industry.