Inside_Networks

THE NETWORK INFRASTRUCTURE E-M

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IS THE DATA CENTRE SECTOR DOING ENOUGH TO ETHICALLY DISPOSE OF WASTE ELECTRONIC EQUIPMENT?

Boxing match

WHY ENCLOSURES, RACKS AND CABINETS ARE A FUNDAMENTAL COMPONENT OF DATA CENTRE TRANSFORMATION

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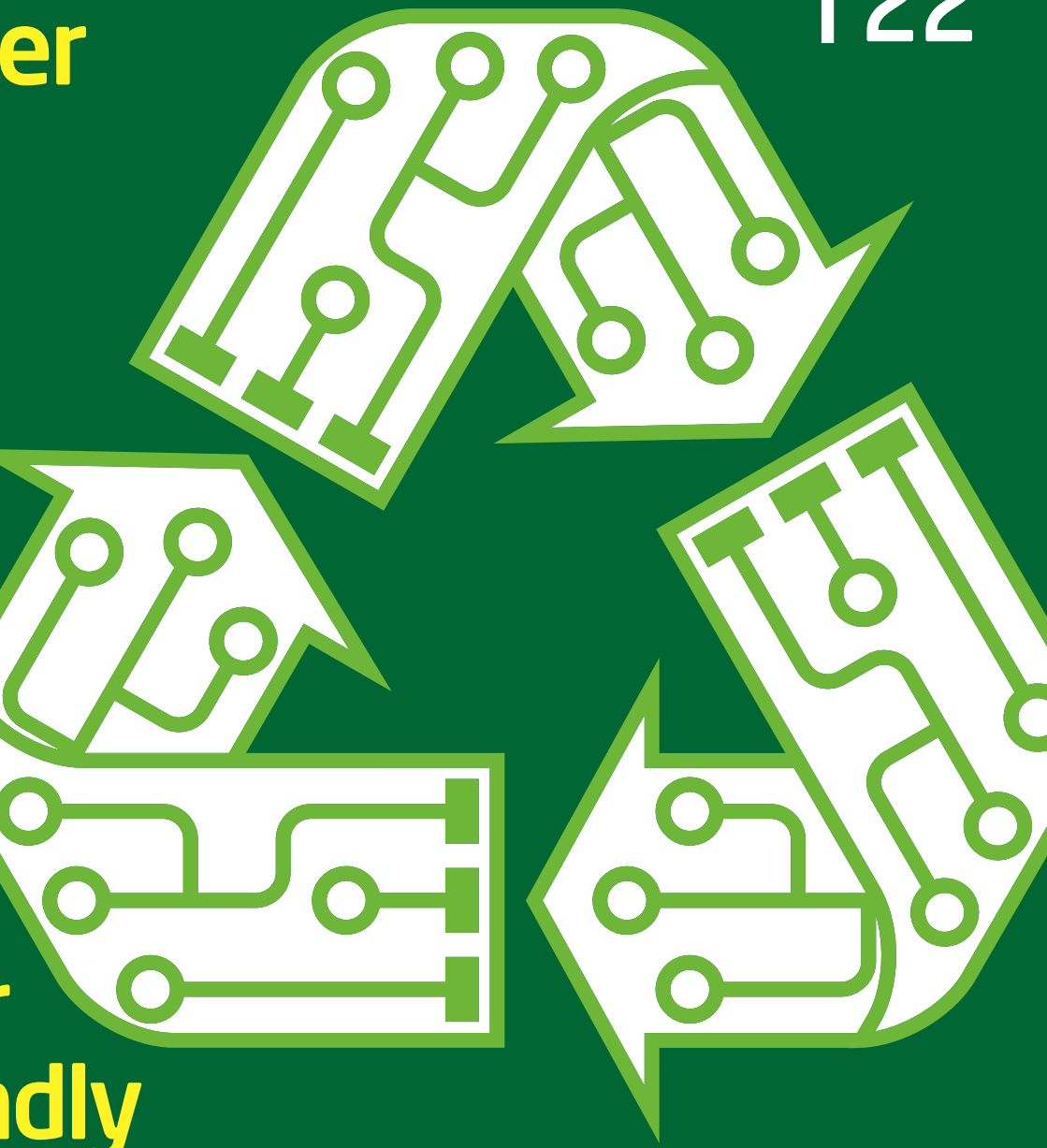

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EDITOR
Rob Shepherd
07708 972170

SUB-EDITOR
Chris Marsland

ADVERTISING MANAGER
Kate Paxton
01603 610265

CREATIVE DIRECTOR
Vishnu Joory

TECHNOLOGY CONSULTANT
James Abrahams

CIRCULATION MANAGER
Debbie King

ACCOUNTS
Billy Gallop

When it comes to data centre sustainability, the focus is usually on energy use – and for good reason. However, what is often ignored is the massive amount of electronic equipment that is discarded each year.

Obviously, the incorrect disposal of network infrastructure equipment can have a hugely detrimental impact on the environment. Whether it's the fluids typically found in heating and cooling appliances, polychlorinated biphenyls (PCBs), mercury containing components or any other potentially hazardous substances or components, their entry into the ecosystem should be avoided at all costs. Fortunately, legislation and a more positive attitude towards recycling has made a difference, but is it enough?

To find out whether data centre owners and managers should take more responsibility when it comes to ethically disposing of network infrastructure equipment that is no longer required, month's Question Time asks a panel of industry experts to discuss the issue. They then go on to examine what can be done to encourage greater recycling and/or reuse of products.

Enclosures, racks and cabinets have a good claim to being the unsung heroes of enterprise and data centre network infrastructures, and in this issue we celebrate their immense contribution. Jon Barker of Chatsworth Products (CPI) explains why enclosures, racks and cabinets form the foundation of white space infrastructure and serve as the starting point for any data centre, while Marc Garner of Schneider Electric looks at why rack technologies are a fundamental component of data centre transformation.

We also have a special feature dedicated to converged network infrastructures. Lee Funnell of Siemon explains why intelligent buildings must focus on their occupants and Andreas Rüsseler of R&M examines why convergence means creating a foundation for a time when every kind of network communication will move to a ubiquitous optical fibre backbone.

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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BCS highlights the looming threat of regulation

According to the findings of the BCS Summer Report 2022, there is a firm commitment amongst respondents to move towards a renewably powered future. However, there are also strong concerns that regulation could be placed on the industry to push initiatives for the greater use of renewable sources of power at a more rapid rate, with around 90 per cent of the 3,000 individuals surveyed believing that this could be introduced to ensure greater compliance.


James Hart

James Hart, CEO at BCS, commented, 'With ambitious targets to be achieved by 2025 and 2030, it begs the question that if our sector doesn't get ahead of these targets, will the self-regulatory initiative become legislative and regulated? We believe our sector is at a crossroads, with one route being proactive and investing in new technologies, self-generation and innovative storage solutions to reach climate neutral targets. The other route is having legislation and regulation imposed on us and having to react to the imposition of energy, water and emission targets that we have no influence over.'

However, confidence in the sector continues with a five per cent increase in respondents seeing a rising demand against a falling supply (up to 90 per cent) which was further reinforced by a near 100 per cent response that demand will either rise or remain the same over the next 12 months. This is despite the concerns voiced by respondents around energy supply, skills shortages and sharply increasing costs across the board.

Disruptions to global supply chains continue to plague the data centre industry and 87 per cent of respondents stated that they had experienced such an eventuality in the past year – a marginal decline on the 91 per cent recorded in the preceding survey. There are also some indications of an easing in the challenge of sourcing of construction raw materials. In 2021 just over half of respondents experienced sourcing difficulties for concrete/cement, steel, cladding materials and dry lining materials – this has fallen to around 32 per cent in 2022 for the concrete/cement and two-fifths for the other materials.

Hart concluded, 'The long-term effects of the coronavirus pandemic, coupled with new geopolitical issues, mean that the world now faces some robust challenges. Whilst an economic slowdown across Europe may have its own consequences for growth in our industry, perhaps the most immediate and stark issue is the inflationary pressure on energy pricing that has already hit consumers and businesses. With the backdrop of economic indicators suggesting that stagnation and recession are foremost in the thoughts of the markets, the optimism shown by our respondents on the current state and future growth prospects of our sector is even more remarkable.'

Largest spend on cloud services expected over next 24 months

Businesses are accelerating their move to the cloud, with half of enterprises suggesting that their biggest anticipated spend will span the next 24 months, according to research from Colt, which interviewed 500 senior IT and C-suite decision makers across key markets in Europe and the Asia Pacific.

Early adopters have found it easier to migrate to the cloud, with 67 per cent of respondents at firms that have already invested in cloud applications finding migration easier than anticipated. Those respondents who had overseen optimised cloud connectivity saw a range of benefits including improved performance (41 per cent), more network visibility (39 per cent) and better security (45 per cent).

Jaya Deshmukh, executive vice president strategy and transformation at Colt, said, 'Our research helps us to better understand the challenges IT decision makers face around what companies are moving to the cloud and why, and the part that connectivity plays in delivering benefits of the cloud.'

Inside_Networks announces date for 2023 Charity Golf Day in aid of Macmillan Cancer Support

Inside_Networks is once again teaming up with LMG, Comtec, Excel Networking Solutions, Mills, Onnec, Computacenter, Slice Golf and Events and CNet Training to host the 2023 Inside_Networks Charity Golf Day, which will take place on 24th May at the Hanbury Manor PGA Championship Course in Ware, Hertfordshire.

As usual, the event will raise money for Macmillan Cancer Support and four ball teams will compete in a 'best 2 from 4' full handicap Stableford competition over 18 holes. There will also be a Beat the Pro competition and a Nearest the Pin contest. The golf will be followed by a three course dinner and prize giving with charity raffle. The cost to enter a four person team is just £750+VAT and sponsorships are also available.

Rob Shepherd, editor of Inside_Networks, commented, 'Now firmly established as one of the most popular events in the network infrastructure industry calendar, the Inside_Networks 2022 Charity Golf Day raised over £10,000 for Macmillan Cancer Support. The work that Macmillan carries out is invaluable and I hope that the industry will unite once again for a great day of networking and competition on one of the UK's premier golf courses.'

To enter a team or get more information about various sponsorship opportunities available **CLICK HERE** to email Mark Cumberworth at Slice Golf and Events or call 07769 696976.

CityFibre launches major brand update to power its next phase of growth


Dan Ramsay

CityFibre has launched an overhaul of its brand, updating its messaging to more effectively engage millions of people as it rolls out new networks across the country. Research conducted on CityFibre's behalf demonstrates that consumer confusion is endemic in the broadband market, with 64 per cent of consumers unaware of the difference between full fibre and part fibre broadband. CityFibre will help cut through this confusion, explaining the superior user experience when connected to a fibre only infrastructure platform, unencumbered by legacy network or systems.

CityFibre is already directly engaging with over 2.5m homes and businesses each month to drive awareness of the benefits of switching networks. Dan Ramsay, chief marketing officer at CityFibre, said, 'Thanks to years of forced reliance on outdated networks, people across the country are underwhelmed, confused and mistrustful of the broadband industry. Given its importance to every aspect of our lives, we don't believe that's acceptable.'

Nearly half of UK students see coding skills as vital for future career prospects

Research by KX has found that among students aged 16-23, 41 per cent can write, or are planning on learning to write, in at least one coding language. 28 per cent already believe that being able to code is a core life skill. When looking at the importance of data handling and analytical skills, 29 per cent of UK students have either taken, or are planning to take, a course in data analytics or data science, while 24 per cent say the same for computational intelligence.


Kathy Schneider

Kathy Schneider, chief marketing officer at KX, said, 'With the continuing digitisation of almost all industries, coding skills will be fundamental to the growth and development of both individuals and economies. However, the education system seems to be playing catch-up when it comes to aligning learning and curriculums with the demands of modern work. There is a role here for companies to partner with education institutions, as well as invest in training to help new recruits get the skills they need to succeed.'

Rashik Parmar becomes new chief executive of BCS

Rashik Parmar is the new group CEO of BCS, The Chartered Institute for IT. Parmar, formerly vice president technology for IBM in Europe, takes over from acting CEO, Rob Deri, who remains part of the senior executive team.

Over four decades at IBM, Parmar helped drive its European technology strategy with a focus on guiding companies toward digital transformation and cloud computing. A fellow of both IBM and BCS, he gained his MBE for helping local businesses and for his work at IBM's Academy of Technology, and is also a visiting professor at Imperial College London.


Rashik Parmar

Parmar said, 'I became a member of BCS in 1981 because I wanted to show my commitment to making IT good for society, as well as being proud to have professional recognition. Even then it was clear that computing and tech would shape the world's future. That's why I'm a member today and why I am honoured to have been chosen to lead BCS.'

NEWS IN BRIEF

According to chief information officers (CIOs) polled by Statista for its 2021 Future of Work (FoW) report, 92 per cent of respondents identified the expanded use of collaboration platforms as one of the most important remote work technologies used by their business since the start of 2020.

Cato Networks has been named as a leader and outperformer by GigaOm in its latest Radar Report for Secure Service Access (SSA).

According to a survey conducted by Apricorn, more than 40 per cent of UK IT decision makers have revealed that their organisations have notified the Information Commissioner's Office (ICO) of a data breach/potential breach since the General Data Protection Regulation (GDPR) came into effect, or are aware that they have been reported by someone else.

NetApp has announced its best ever Q1 financial results, with net revenues of $1.59bn.

Analysis by Atlas VPN has revealed that US citizens lost a record $3.56bn to various types of online fraud in the first half of 2022 – an increase of almost 53 per cent over the same period last year.

According to analysis by StockApps.com, out of the five major digital firms – Google, Twitter, Apple, Amazon and Facebook – Google harvests the most data on its users.

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The fuel driving the IoT

Hi Rob

Adoption of the internet of things (IoT) is growing rapidly, as advancements in 5G networks, cloud computing and automated technologies continue to facilitate innovation. However, as businesses continue to digitally transform and embrace the IoT, they must first ensure they have the right infrastructure foundations in pace. As cool as IoT implementation sounds, the benefits can only be truly realised once legacy IT infrastructures are modernised and systems migrated to the cloud.

Having low cost and low latency application performance is imperative with IoT driven businesses – and that's not always easy to achieve. The most powerful IoT applications need the right infrastructural foundations to be able to ingest enormous volumes of real time data, as well as the bandwidth to analyse huge volumes of data for more efficient decision making. This will become even more critical as more IoT data processing is pushed to the edge.

The IoT is a complex and individual process that currently faces the twin barriers of legacy systems that lack scalability and flexibility, as well as shortages in competence to fully engage a business with IoT technology. The reality is that today's data centre colocation providers are best equipped to fill in the gap in the IoT landscape. They offer a cost effective means for managing, storing and organising big data and low cost connectivity, as well as the expertise to guide businesses through implementation.

Colocation data centres effectively serve the IoT framework and help businesses realise the unique requirements and tangible benefits it can bring to them. In practical terms, colocation can both enable and facilitate the connections needed to support IoT, while ensuring the highest levels of protection against increasingly common and sophisticated cyber threats.

Colocation is rapidly becoming the most

efficient and flexible means to manage and analyse the enormous amounts of IoT sensor data for factories, supply chains, power grids, distributed products and even cities. Smart cities have now moved beyond the point of speculation in ways that integrate utilities, services, security, transportation and much more under the IoT banner. Colocation providers are leading the way in making that a reality in major metropolises across the world.

For most businesses that have implemented IoT within their business models, network connectivity will continue to require expansion. That means an interconnected mesh of both international and regional access hubs that can further hybrid cloud strategy benefits through colocation networking. The goal is to deliver data across the shortest path from point A to point B with the most cost effective connectivity charges.

It is also worth highlighting that the vast majority of IoT platforms and applications today are both 'as a service' and 'cloud first'. That means that any business that wants to tap into the benefits of scale, stemming from the abundance of IoT platforms and application providers, will first need to move their data into the cloud. They can then draw on the capability of colocation providers to access storage and compute capabilities in the cloud but also to give them the opportunity to interconnect to as a service providers whenever required.

Bo Ribbing
KDDI Europe

Editor's comment

As the IoT starts to mature, the requirements regarding its optimisation are starting to become more refined. As Bo points out, low cost and low latency application performance are two prerequisites for making this happen.

Leviton Network Solutions Europ
50 years of UK cable manufacturi

From its beginnings as Brand-Rex in 1972, this year marks 50 years of cable manufacturing for Leviton Network Solutions at its Glenrothes factory in Scotland

Communication methods have changed dramatically over the past 50 years. Spanning the birth of the personal computer to the massive cloud data centres of today, these 50 years have required constant innovation from the makers of connectivity technologies in order to meet the needs of a changing network landscape.

Rich legacy

This is precisely what Leviton Network Solutions has done. It's a landmark year for Leviton's Glenrothes factory in Scotland, as the European headquarters is celebrating its Golden Anniversary of cable production. Over the past 50 years the Glenrothes facility has developed a rich legacy of stability and innovation, continually enabling communities and organisations to remain connected by producing innovative cabling solutions for data centres, businesses, hospitals, schools and government agencies.

The Glenrothes facility began in 1972 when the US based Brand-Rex Corporation and British Enkalon founded the joint venture, Brand-Rex Limited, to manufacture computer based cabling. Though several locations were evaluated before Glenrothes, the Scottish location was special. The 'new town' of Glenrothes sat in what was then known as Silicon Glen, Scotland's burgeoning high-tech sector. The Glenrothes facility was poised to supply global tech companies with the cabling and connectivity they needed.

Supply and demand

The Glenrothes location would grow to meet the demand for many other cabling products in the years to come. To supply the increasing development of data centres around the world, Leviton opened a new data centre factory in 2017.

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Sustainability

Continuing to improve sustainability efforts is a core tenet of UK operations. Environmental impact is considered at every step of Leviton's product development process – from material sourcing to final packaging and logistics. In 2011, the European headquarters led the way in sustainability efforts for Leviton's EMEA region. The business region was the first to achieve carbon neutrality, with PAS 2060 verification for its both factories, all sales offices and logistics.

Giving back

As part of the 50th anniversary celebrations, Leviton will be working with charities and schools to give back to the local community and thank the local workforce who have contributed to Leviton's success throughout the years.

CLICK HERE to learn more about the Leviton Network Solutions UK manufacturing history and capabilities.

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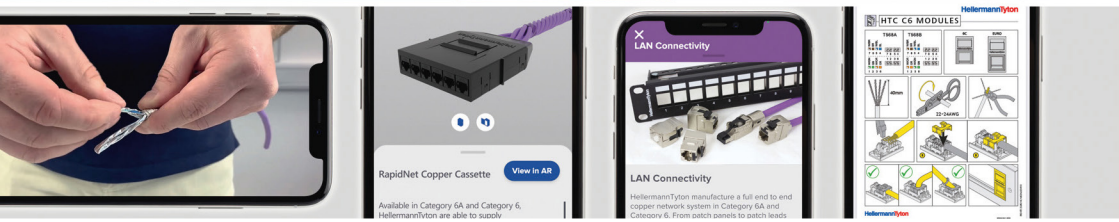

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Waste not want not

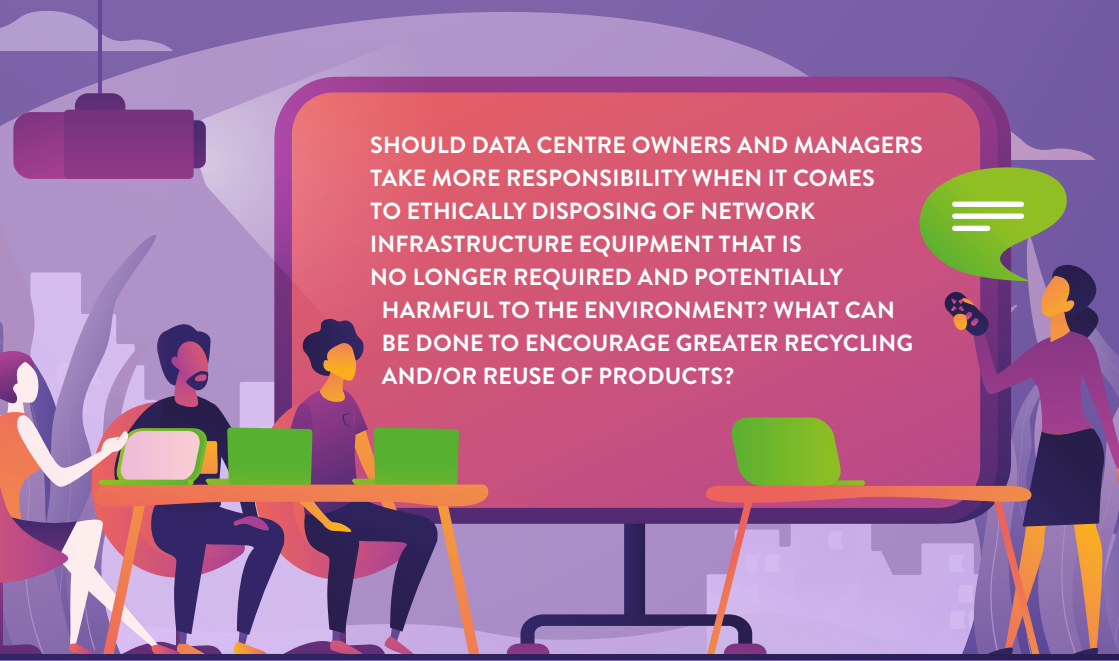
While the data centre age has transformed the world, it is also partly responsible for one of the fastest growing waste issues – discarded electronic equipment. Inside_Networks has assembled a panel of industry experts to examine the various legal and moral responsibilities when it comes to the decommissioning and disposing of network infrastructure equipment

In the data centre sector, where new technology that can perform tasks more quickly, efficiently and reliably is introduced at an astonishing rate, there's an awful lot of waste created. There is a whole list of reasons – legal, moral and above all practical – for the safe disposal of items once used in a data centre.

Some manufacturers have found creative ways to recycle and repurpose the more toxic remnants of electronic waste. However, while recycling appears to make sense, recovering reusable materials from devices can be problematic, particularly if the processing poses its own environmental risks. Worryingly, some businesses involved in recycling waste take it to other countries where less stringent environmental standards mean the process of extracting recyclable materials can expose people to danger.

Inside_Networks has assembled a panel of experts to discuss the responsibilities data centre owners and managers have when it comes to the decommissioning and disposing of network infrastructure equipment.

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



JOHN BOOTH

MANAGING DIRECTOR AT CARBON3IT

Networking equipment is covered under the Waste Electrical and Electronic Equipment (WEEE) regulations and, according to information on the UK Environmental Law Association website, 'businesses and other users of electrical and electronic goods must ensure that all separately collected WEEE is treated and recycled. Depending on the circumstances, the cost would be borne by either the business or the producer of such goods'.

However, this depends on who owns the equipment! In some data centres there are in house network systems and, as such, it's the data centre owner who is responsible. However, some leave networking to their clients, thus they are responsible.

If the data centre or the client site is certified to ISO 14001, then this should already be covered in the waste policy section. As an operator they can suggest that equipment is reused or recycled in an environmentally friendly fashion to their clients via contracts, service level agreements, terms and conditions or as part of the service take on process (STOP).

Networking equipment has a relatively long life when compared to other ICT systems, and there appears to be a thriving second hand marketplace, so it may be prudent to do a quick internet search to find companies that will offer to buy your old networking kit, or for that matter any old ICT equipment.

With the development of the circular economy and the commitment of some operators under their Client Neutral Data Centre Pact (CNDCP) obligations in this regard, I don't think that further encouragement is needed. Data centre companies should already be doing the right thing!

I'll be bold and say that I don't see this as a problem. The legislation is clear, the responsibilities are clear and there are many opportunities to dispose of unwanted items ethically.

'I'LL BE BOLD AND SAY THAT I DON'T SEE THIS AS A PROBLEM. THE LEGISLATION IS CLEAR, THE RESPONSIBILITIES ARE CLEAR AND THERE ARE MANY OPPORTUNITIES TO DISPOSE OF UNWANTED ITEMS ETHICALLY.'

DAVID WATKINS
SOLUTIONS DIRECTOR AT VIRTUS DATA CENTRES

From the perspective of data centre providers, when it comes to ethically disposing of network infrastructure equipment a major factor to consider is the ownership of the equipment in the facilities. Most data centre providers don't actually own the IT equipment they host – it is owned by the end user, so ultimately it is down to the customer to implement these kinds of initiatives.

However, we have customers that operate across most industry verticals and can see how recycling/reuse of hardware is approached by different sectors. Because of this, we are in a fantastic position to encourage greater recycling and/or reuse of products.

We take responsibility by sharing knowledge about the circular economy with our customers. We actively highlight the potential cost benefits and risk reduction of harvesting spare parts that are still within their operating life, but subject to potential removal due to being part of a larger failed, or failing, piece of equipment.

Amongst others, we partner with Technimove, whose core service offering is IT relocation but it also provides recycling services. It is common for our new customers to take the opportunity of moving their IT infrastructure to do a tech refresh of their hardware estate when they are onboarding. In this scenario, Technimove has the opportunity to educate and work with our customers.

With regards to what we do as data centre provider when it comes to recycling/reuse, a good example is when we identified an opportunity to improve the section valves deployed in our fire suppression systems. Our goal was to introduce enhanced functionality, which was challenging to do in-situ, so we fabricated a small number of the new configuration valves off-site.

We swapped out some valves on-site and returned the originals to the manufacturer for 'part harvesting'. They dismantled the original valves off-site and reused most of the parts to create more enhanced valves, which were returned to site and installed. The result was little waste, lower cost and speedier installation.

'MOST DATA CENTRE PROVIDERS DON'T ACTUALLY OWN THE IT EQUIPMENT THEY HOST – IT IS OWNED BY THE END USER, SO ULTIMATELY IT IS DOWN TO THE CUSTOMER TO IMPLEMENT THESE KINDS OF INITIATIVES.'

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DAVID ABRAHAMS

KEY CLIENT MANAGER CLOUD & SERVICE PARTNERS AT SCHNEIDER ELECTRIC

The only answer to this questions is yes! Data centres are already known as large consumers of power and with greater focus on how the industry can impact the environment, combined with the move towards net zero emissions, governments, regulators and investors will soon take more interest in the ethical disposal of infrastructure products.

Simply dumping retired technologies into landfill is not acceptable. Therefore, data centre operators must take a long-term, proactive approach to ensure effective repurposing, recycling and safe disposal of all critical hardware assets.

Many organisations are already utilising refurbished servers and storage systems, and some are choosing to deploy power products that can be repurposed once they have reached the end of their life. Lithium-ion batteries, such as those used in uninterruptible power supply (UPS) systems, for example, could be redeployed or used in second life applications.

What's critical is that businesses know and understand both how and where their infrastructure assets are deployed. Asset management software can increase the visibility of all equipment in a data centre or across distributed IT environments, and share data driven insights into when components may be due for replacement. In fact, by collaborating with vendors, end user organisations can quickly develop effective disposal plans for their legacy hardware assets.

Some vendors are even taking matters into their own hands and helping customers to integrate with the circular economy by making Green Premium solutions that offer the user sustainable performance by design. Here, it is essential that such technologies include transparent information and environmental disclosures such as a Product Environmental Profile (PEP). I believe minimal use of hazardous substances in compliance with regulations such as RoHS and REACH is key.

In terms of how we encourage greater recycling and/or reuse of products, greater self-regulation, new legislation and green financial incentives will all play important factors – encouraging many businesses both in the industry and outside of it to develop more environmentally friendly and ethical practices. Moreover, adhering to initiatives such as those being led by the Climate Neutral Data Centre Pact (CNDCP) will be crucial.

Finally, the inclusion of circularity profiles should be mandatory for all new technologies, offering the buyer greater guidance on responsible end of life treatments and circular value propositions.

'DATA CENTRE OPERATORS MUST TAKE A LONG-TERM, PROACTIVE APPROACH TO ENSURE EFFECTIVE REPURPOSING, RECYCLING AND SAFE DISPOSAL OF ALL CRITICAL HARDWARE ASSETS.'

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MARK ACTON

TECHNICAL CONSULTING DIRECTOR AT FUTURE-TECH SCI

Firstly, we have to separate those data centre owners and managers who have direct responsibility for network infrastructure equipment, and ultimately it's disposal, and those who do not. The first group contains the traditional self-owned and operated enterprise data centres including hyperscale operators that are merely enterprise operators at scale.

The second group are the third-party colocation providers. For this later group, without direct ownership and responsibility for network equipment there is realistically only the opportunity to influence their customers in relation to ethical disposal. This is an area where colocation operators could take the responsibility to remind their customers about their obligations under the Waste Electrical and Electronic Equipment (WEEE) directive when they see equipment being removed.

Those in the first group have a real responsibility to make sure that equipment is properly disposed of and effectively recycled. This should not end when equipment leaves the premises – it should involve a diligent follow up and check of the audit trail associated with the equipment disposal in order to keep the contractors employed for disposal honest, especially as we know that this is an area where shortcuts can be taken. This follow up check on the equipment disposal audit trail is something where we could do a far better job on generally as an industry.

The final element to consider is equipment reuse. There are security considerations in terms of making sure that configuration settings and detail do need to be properly wiped, however, the equipment that is being removed from leading edge, high performance data centres my still have a residual second user value to those smaller operators less interested in the highest available capacity or speed of performance.

This is certainly an option for all to consider and is becoming increasingly popular, especially as the companies operating in the area of the circular economy are inevitably ethical and responsibility focused. Reduce, reuse, recycle would be a good mantra for us all to follow.

'WE HAVE TO SEPARATE THOSE DATA CENTRE OWNERS AND MANAGERS WHO HAVE DIRECT RESPONSIBILITY FOR NETWORK INFRASTRUCTURE EQUIPMENT, AND ULTIMATELY IT'S DISPOSAL, AND THOSE WHO DO NOT.'

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IAN CATHCART

CHANNEL MANAGER AT CHATSWORTH PRODUCTS

Reducing carbon footprint is now at the forefront of almost every organisation's goals. However, the demand for data is at an all-time high, meaning data centres contribute up to 200 million metric tons of carbon dioxide in a year. There are a number of recommendations that data centre managers can follow to reduce their organisations' carbon footprints.

Choose a company that can design, manufacture and install a full power and cabinet solution under a single part number. By doing so, organisations can significantly reduce waste, packaging and the person hours and energy needed for more rigorous on-site assembly, while also saving on freight costs thanks to more efficient shipping logistics. Pre-configured cabinets will ship on shock pallets that are designed to absorb any vibrations during transportation and ensure the IT equipment racked inside the cabinets arrives safely.

As data centre managers and operators around the globe try to keep up with rising compute demand, and more server capacity is deployed, they increasingly find value in moving their servers to the cloud. The growing reality of a remotely working world has accelerated this upward trend even more.

During migration, it's common to inadvertently leave behind or keep servers that aren't in use anymore, except that they continue to run, and run inefficiently at that, in the background. Unused and underutilised servers, sometimes referred to as ghost servers, can add millions of pounds to an energy bill and place higher, unnecessary demand on the resources needed to support them.

You can identify these underutilised ghost servers by taking more dedicated steps to monitor power consumption trends. And although individual power use by device will vary based on workload, in general power consumption will increase with utilisation. By comparing consumption against known thresholds you can identify servers that may be idle or underutilised. And once intelligent power distribution units (PDUs) that monitor power at the outlet level are in place, it's beneficial to centralise monitoring and automate reporting with a data centre infrastructure management (DCIM) solution.

'BY COMPARING CONSUMPTION AGAINST KNOWN THRESHOLDS YOU CAN IDENTIFY SERVERS THAT MAY BE IDLE OR UNDERUTILISED. AND ONCE INTELLIGENT PDUS THAT MONITOR POWER AT THE OUTLET LEVEL ARE IN PLACE, IT'S BENEFICIAL TO CENTRALISE MONITORING AND AUTOMATE REPORTING WITH A DCIM SOLUTION.'

ROSS HENDERSON

SENIOR DIRECTOR IBX OPERATIONS UK AT EQUINIX

As emerging technologies and cloud adoption accelerates at an unprecedented rate, data centre owners and operators need to offer digital infrastructure responsibly to support and advance their own sustainability goals and those of their customers. A key part a journey towards carbon neutrality is addressing the sustainability and ethical disposal of IT hardware assets. Building sustainable edge data centres at scale requires careful thought over the components used during the design and deployment stages, while reducing e-waste is of primary concern as digital infrastructure nears the end of its commercial viability.

Data centre providers must continue to identify and deploy initiatives to increase sustainability practices and recovery efforts, such as refurbishing and recycling hardware, to meet carbon emissions targets and reduce landfill. We are a founding signatory of the Client Neutral Data Centre Pact (CNDCP) and work alongside 31 other data centre operators and 20 trade associations in setting measurable targets to transitioning Europe to a climate neutral economy. One of those commitments is to increase the reuse, repair and recycling of servers, electrical equipment and other related electrical components.

Within our own operations, our metal services up to Generation 2 are maintained for client use, while we reprice older generation equipment to encourage customers to move relevant workloads on to these devices to elongate their workable lifespan. With our Generation 3 servers, we use the latest Open19 design standards, where much of the basic hardware is common and reusable. This allows us to plan for many years of service while being able to change out motherboards and expansion devices.

Customers should be encouraged to incorporate circular economy principles into their corporate waste management initiatives. Diverting e-waste through recycling and donating retired computing equipment to non-profits will help address the global digital divide.

Growing stakeholder expectations and an increasing awareness of the environmental impact of the digital economy drives the need to develop an ecosystem where data centre operators work with industry players, institutions, vendors and local communities to ethically dispose of network infrastructure equipment.

‘BUILDING SUSTAINABLE EDGE DATA CENTRES AT SCALE REQUIRES CAREFUL THOUGHT OVER THE COMPONENTS USED DURING THE DESIGN AND DEPLOYMENT STAGES, WHILE REDUCING E-WASTE IS OF PRIMARY CONCERN AS DIGITAL INFRASTRUCTURE NEARS THE END OF ITS COMMERCIAL VIABILITY.’

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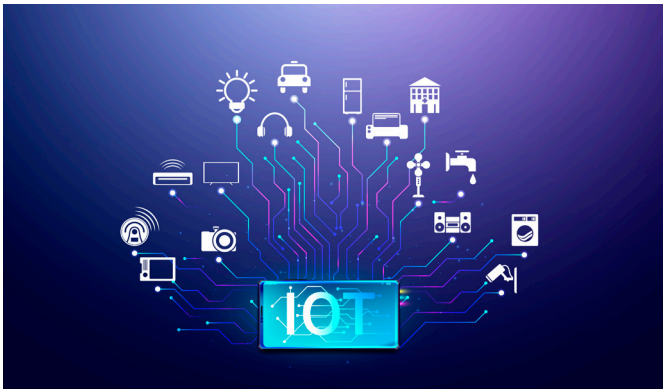
Making the most of a significa

Available exclusively through Mayflex in the UK, AEM's CV100 platform offers mul in one device – designed for today's applications and the internet of things (IoT) w

Investing in test equipment for cable certification is a considerable expense for data cabling companies, so making the right decision is crucial. Up until recently, the choice has been relatively limited.



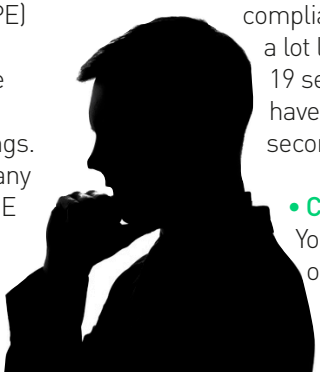
Making the best of your investment

When purchasing a piece of test equipment, here are the major factors that should be considered:

• Specification

Other than providing test results for cable certification, what other tests is the tester capable of? Does the tester carry out tests and produce reports that can generate extra income streams? When it comes to power over Ethernet (PoE), testing under load has real tangible benefits for the end user. Ensuring that the PoE switch delivers the correct power to their IoT devices is very useful for smart buildings.

Single Pair Ethernet (SPE) will be used far more in smart buildings due to the considerable installation cost reductions that it brings. Smart buildings utilise many more sensors, such as PoE lighting, making SPE the ideal cabling solution. Can your current tester test SPE? Will it be upgradeable in the future?



Having a tester that can carry out networking tests like trace route is also very useful – after all, it might be the network at fault, not the cable.

• Speed of use

Most manufacturers like to talk about speed but generally they only talk about their headline speeds. They often don't speak about complete tests with ++ results, which are essential for PoE compliance. Why? Because they take a lot longer to perform – as long as 19 seconds. Wouldn't it be great to have a tester that could do this in six seconds?

• Calibration and warranty

You need to factor in the tester's ongoing costs after the first year

nt investment

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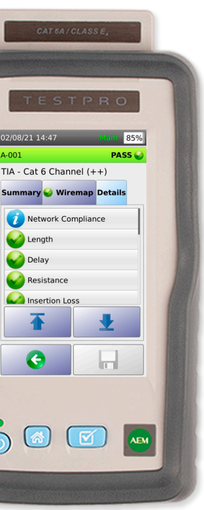
orld

of ownership. Most tester brands require annual calibration to ensure that test results are accurate, meaning that you could be without a tester for a few weeks whilst it's sent away. The costs of this and any care packages offered can be quite considerable and need to be factored in that initial evaluation when buying a tester.

• Obsolescence

The operating speed of the motherboard of the tester is often not a significant consideration – but it should be if you want to protect your investment. For instance, does your current tester test the low frequencies required for SPE testing? Are you covered for the future? Having a 3GHz rated tester, which outperforms all other testers currently on the market today, will ensure your investment is protected.



The intelligent choice

AEM's CV100 platform offers all the above – it combines multiple testers in one device, which are designed for today's applications and for the IoT world.

All CV100 platform testers come with a 3-year standard warranty, including a comprehensive 3-year care plan and free calibration on-site for fleet customers. We even cover accidental damage for the main and remote units, so we'll replace them if they are accidently damaged and we cannot repair them at our UK service centre.

3 YEAR CARE PLAN

With AEM, it's simple – no hassle protection of your investment for 3-years, which will significantly affect the total cost of ownership.

Talk to Mayflex to find out more about the award winning AEM CV100 platform and arrange a demonstration to understand more about the technical capabilities and the numerous features and benefits.

Get in touch

For more information about Mayflex **CLICK HERE,** call our sales team on 0800 757565 or **CLICK HERE** to send an email.

If you don't already deal with Mayflex, you can easily **CLICK HERE** to open an account.

www.mayflex.com

AEM award winning testers.

Firm foundations

From the edge to the cloud, rack technologies are a fundamental component of data centre transformation, as Marc Garner of Schneider Electric explains

Data centres and IT rooms play host to an environment built on virtualised applications, high density processing and connected infrastructure. As more businesses embrace digital transformation initiatives, we've begun to see a fundamental shift from larger on-premises data centres towards hosted, colocation or cloud based applications – those capable of delivering fast, scalable and resilient technological foundations that enable customers to address new markets and scale into new regions.

CENTRE OF ATTENTION

Many of these centralised hubs rely on an intricate digital infrastructure ecosystem comprising hybrid IT architectures that combine cloud based facilities and micro data centres at the edge to provide the optimum balance of application availability and uptime, data security and low latency connectivity. In fact, today's hybrid IT environments rely on a multitude of complex distributed IT, networks and nodes, and need the supporting infrastructure to operate with resilience to provide 24/7 uptime for customers.

Often overlooked as the most basic of IT requirements, enclosures, racks and cabinets provide foundational critical infrastructure on which scalable IT architectures are built. More specifically, rack systems provide the building blocks of many businesses' current and future IT environments. The data centres of the future must be resilient, adaptive, efficient and sustainable, and recognise that no single solution or architecture will fit every requirement. Although many fundamentals remain the same, standardisation, modularity and reference designs can all play a key role in helping businesses digitally transform.

DATA DRIVEN BUSINESS

New research from IDC has found that businesses are primarily investing in edge computing to improve cybersecurity, systems resiliency and reliability.

Application availability, connectivity

and data have all been essential during the course of the coronavirus pandemic, with data centres the heart of the digital economy. However, sustainability has also become a key driver of decision making, with 82 per cent of respondents citing commitments to sustainability as a key selection criterion for selecting an edge solutions provider.

With more data now being generated by connected devices, resilience, efficiency and speed of response are even more vital for the data centre industry. The surge of new data and the consequent demand for more distributed data centres at the network edge is causing the industry to diversify along two routes.

LEVEL BEST

At one level, data centres are becoming bigger, ensuring huge data capacities are available from centralised hubs. On the other, smaller data centres are moving to the edge of the network, bringing data closer to the point of consumption, simplifying internet traffic and reducing network latency for critical applications across finance, manufacturing and streaming, where speed of response is essential.

The internet of things (IoT) continues to grow, with more devices connecting daily. Gartner predicts that by 2029, more than 15 billion IoT devices will attach to the enterprise infrastructure, but what's most interesting is that these smaller data centres must benefit from the same levels of security, efficiency and resilience as their larger counterparts. Many will also be built using the same modular and standardised rack technology as hyperscale facilities. For example, many racks and enclosures are not only used to form foundational infrastructure for micro data centre solutions, but are found inside the white space of many larger data centre owners, operators and end users.

TRANSFORMATION AND INTEGRATION

Another important factor in the era of digital transformation is collaboration between vendors and their product offerings. In the hyperconvergence space no single vendor can provide all the tools necessary to deliver every type of service required by today's businesses. Collaboration, interoperability and speed of response are, therefore, fundamental requirements for the creation of prefabricated and quick to deploy edge systems.

Leading vendors will work with original equipment manufacturers (OEMs) such as Cisco, Dell, HPE and Stratus to make integration as seamless as possible for the end user. This means that edge computing solutions will be built to deliver high standards of security and often within a single rack enclosure complete with integrated power, uninterruptible power supply (UPS), power distribution, management software, physical security, environmental monitoring and cooling.

Such infrastructure can be assembled and deployed rapidly to support a self-

'Whether incorporated within a prefabricated data centre, a row based data centre architecture or an edge computing solution, rack technology provides the building blocks for IT security, resilience and scalability, while enabling greater efficiency and predictability for the user.'

contained, secure computing environment, in some cases in as little as 2-3 weeks. However, the businesses providing these micro data centre solutions must work closely with IT vendors that produce rack mounted servers, storage arrays and networking equipment to ensure their products integrate seamlessly with each other.

STAND AND DELIVER

With integration key, micro data centre solutions must also be delivered ready to deploy and in excellent working condition, which requires focused partnerships between vendors and the expertise of specialised system integrators. The key, it seems, lies not within the individual pieces of IT and infrastructure equipment, but very much within the way such edge computing systems are designed, built, tested and deployed.

Additionally, the hardware must be guaranteed to work flawlessly with data centre infrastructure management (DCIM) and virtualisation software solutions that allow pools of processing or storage resources to be treated as individual systems dedicated to particular customers or applications. Doing so can ensure seamless integration, increase uptime and, depending on the platform, offer data driven insights from anywhere, on any secure device.

SCALING UP

With speed of delivery a prevalent issue in today's market, another option is to utilise prefabricated, modular building blocks to create scalable infrastructure solutions, which can often include racks, power, cooling, management and IT. These pre-integrated and ultra-secure systems are designed and deployed as a piece of pre-assembled infrastructure and can also include power distribution units

(PDUs), containment systems, switchgear, advanced environmental monitoring and physical security features. Moreover, they can often be designed and operational within 12-16 weeks.

Another option is to utilise row based data centre designs, which provide end users with a flexible, scalable architecture, incorporating all critical infrastructure into a single energy efficient system. The modular design of row based systems can accommodate the customer's choice of cooling system, hot or cold aisle

cooling configuration, while being easy to assemble and scale. Furthermore, greater standardisation can lead to significant reductions in install time, increased energy efficiency, reduced costs and decreased risk.

BUILDING BLOCKS OF SUCCESS

Racks and enclosures offer complete flexibility for customers looking to embrace IT digital transformation and remain the foundation on which such strategies are built. Whether incorporated within a prefabricated data centre, a row based data centre architecture or an edge computing solution, rack technology provides the building blocks for IT security, resilience and scalability, while enabling greater efficiency and predictability for the user. ■

MARC GARNER

Marc Garner is vice president of Schneider Electric's Secure Power Division in the UK and Ireland. He is responsible for leading a team of expert power professionals to support customers in data centres, server rooms, edge computing and mission critical environments. Garner is a 15 year veteran of Schneider Electric and has worked in sales, marketing and leadership roles.

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Comtec has extensive success in delivering leading brands to data centres and equipment rooms across the UK, backed-up by knowledgeable teams and dedicated customer service personnel. We live and breathe your projects with you as a team, ensuring the best results are achieved right first time.

We can deliver a wide range of cabinets and accessories on a next day delivery service throughout the UK including products from Ultima, Lande and Prism. If it's needed on your network, we stock it!

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EDP Europe

Aisle containment, as part of an airflow and thermal management strategy, improves cooling optimisation and thermal performance, delivering potential energy efficiency gains at computer room air conditioning (CRAC) unit level.

EDP Europe provides various hot and cold aisle containment solutions, from custom engineered systems that attach to the fabric of a data centre to the AisleLok out of the box solution that can be installed simply in minutes. EDP Europe's custom solutions are fully flexible, tailor-made and effective, and can be utilised in new build projects or retrofitted within legacy environments.

Independent of cabinet manufacturer, EDP Europe's hot and cold aisle containment (HAC and CAC) solutions can be designed to fit any configuration of rack heights and widths, accommodate overhead services, structural columns and all other possible variations in a data hall. EDP Europe offers a range of door, infill and roof options including FM Global approved panels.

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www.edpeurope.com

Austin Hughes

InfraPower Intelligent Automatic Transfer Switches (ATS) from Austin Hughes are a perfect fit to provide power fallback for single corded devices.

Encompassing dual power inlets for connection to both a primary power source and a redundant secondary power source, an InfraPower Intelligent ATS is a reliable solution for automatically sensing power loss and switching to the secondary power source. Power source transfer time is seamless to connected equipment, making sure that the switching occurs safely between the two input power sources.

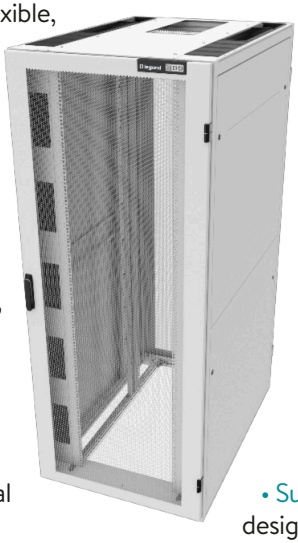
After switching to a back-up power source, it can also switch power back to the primary input after power has been restored.

InfraPower Intelligent ATS with remote monitoring over IP functionality provides real time monitoring of amp, volt and kWh, assisting users with capacity planning and improving the overall power efficiency of a data centre. Supplied with free management software, users can also integrate with third-party data centre infrastructure management (DCIM) via SNMP.

CLICK HERE to find out more.
www.austin-hughes.com

Legrand

Legrand's Nexpand is flexible, sturdy and secure for housing data centre devices. It provides the scalability and future proof architecture needed to support the rise in digital transitions, internet of things (IoT) connectivity, 5G services, edge computing and artificial intelligence (AI) applications. The Nexpand platform is built on four fundamental values:



• Smart. The cabinet's interior is made to be adjusted in three dimensions, with a completely modular roof. This intelligent design provides more space and flexibility for managing top of rack infrastructure.

• Solid. The new design offers lightweight, solid doors in a frame that easily bears the IT equipment load, with a fully integrated locking and cabling system that is unique to the marketplace.

• Secure. Nexpand provides the highest level of security by interfacing with the most secure electronic door locking platforms.

• Sustainable. The new cabinet is designed to ensure optimal airflow management, resulting in a best in class, energy efficient solution.

To find our more **CLICK HERE.**
www.legrand.us

Introducing FlexCore™

Panduit's **NEW** Optical Distribution Frame Solution

PANDUIT™

The ultimate in flexibility, manageability, scalability, and security

Flexibility in your network infrastructure is crucial in order to meet evolving needs and scale as new services are brought on-line.

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High Density
Data centre floor space can be reduced by 50%*.

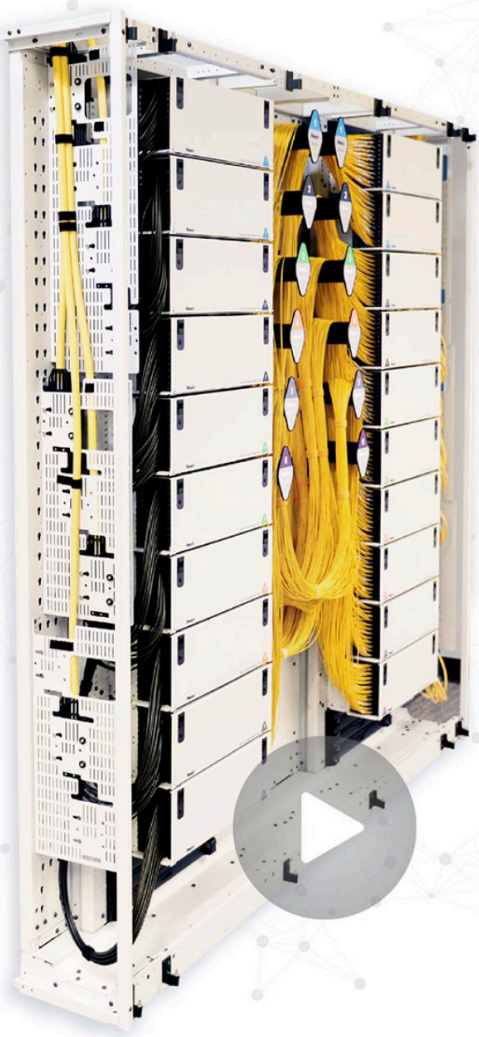
Intuitive
Save time and cost. Intuitive routing paths enable faster moves, adds, and changes (MAC's) and keep cabling efficiently managed to eliminate the need for 'rip and replace' as the system scales.

Innovative
Innovative cable management and lockable vertical cable manager doors eliminate circuit risk and downtime.

Scalable
Pay as you grow. Modular cassettes can be added to enclosures as needed and frames expanded side-to-side or back-to-back.

Secure
Enable multi-tiered service level access with lock options for vertical cable managers, frame and 4RU enclosures.

Breadth of Solution
FlexCore™ is compatible with a wide range of Panduit solutions including Ribbon Fibre Cables, LC Uniboot Patch Cords, PanMPO™ assemblies, RapidID™, and FiberRunner™, making it a 'best in class' solution for building entry, meet-me-room, and Fibre distribution areas.



* Assumes 4 double frames (2 double frames in a 'back-to-back' arrangement). Design conditions and configuration specifics apply.

www.panduit.com/flexcore-odf

ZetaFrame™ Cabinet

Built-to-Order, Fast Deployment, Stronger Support

CHATSWORTH PRODUCTS

Chatsworth Products (CPI) presents the ZetaFrame™ Cabinet, its most configurable, advanced and strongest cabinet enclosure to date.

Fast Selection and Customisation

Wide range of standard configurations allow customers to create a tailored solution that meets their exact requirements

Future-Proof Capacity

Roll-formed, tubular and fully welded steel frame architecture supports market-leading 5,000 lb (2268 kg) static and 4,000 lb (1814 kg) dynamic loads

Integrated Power and Airflow Management

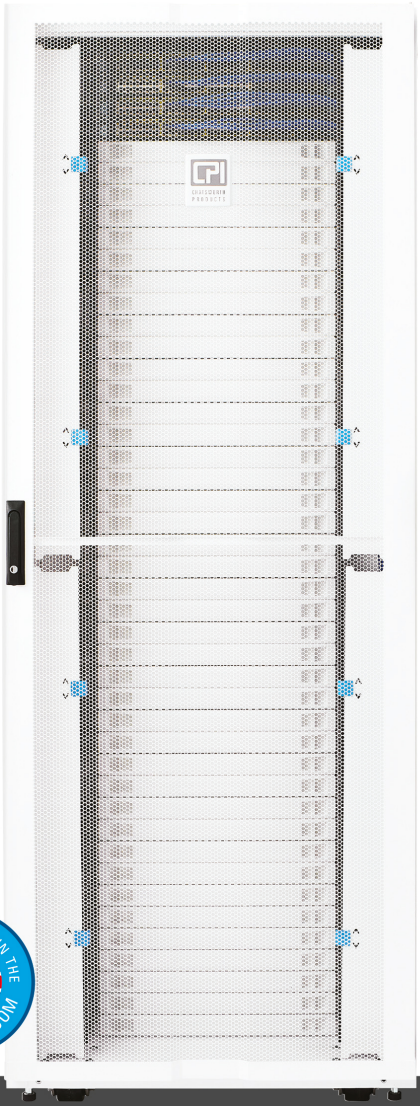
Seamless integration with optional power and airflow management accessories under a single part number ensures quick deployment

Integrated Bonding

Doors and panels bond to the frame through hinges and contact points, eliminating the need for attaching separate grounding straps to cabinet components

Enhanced Cable Management

ZetaFrame's simple and versatile cable management accessories can be used independently or in combination to accommodate a wide variety of applications



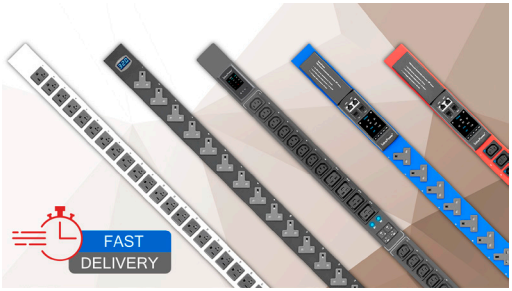
Whether you are planning a rack-and-stack or rack-and-roll application, protecting air- or liquid-cooled equipment, or deploying in a large cloud/enterprise or smaller edge data centre, the ZetaFrame Cabinet delivers the ultimate support for your technology investment.

MANUFACTURED IN THE UNITED KINGDOM

Request a demo: infoeurope@chatsworth.com
or visit: pages.chatsworth.com/ZetaFrame.html

Austin Hughes

With ongoing industry supply chain issues and in a climate of persistent unpredictability, Austin Hughes can help. An extensive range of Austin Hughes solutions is available from stock or on short lead times.



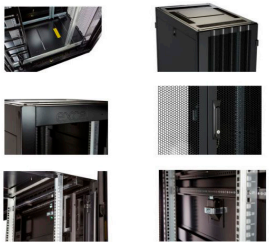
Enterprise level single phase intelligent, metered and basic rack mounted power distribution units (PDUs) are available in horizontal and vertical mounting versions, multiple outlet configurations (including per PDU), and with a choice of inlet plugs and cable lengths. The InfraPower range also includes three phase rack PDUs, metered and intelligent automatic transfer switches (ATS) and in-line meters.

CyberView rack LCD console drawers with optional integrated KVM or standalone KVM switches are also available from stock or with fast delivery options including 4K Ultra HD, Full HD and WUXGA console drawer models. Rackmount solutions are available for when you need them to keep your project on track.

CLICK HERE to find out more.
www.austin-hughes.com

Excel Networking Solutions

Environ SR racks are the flagship products in the Excel Networking Solutions' Environ range. With a load bearing capacity of 1500kg and split side panels, together with mesh design front and rear doors providing maximum airflow within the rack, they are perfectly suited for housing high density server and equipment installations, particularly in data centre environments.



Excel server racks can be delivered assembled or flat-packed. When installed by an Excel partner as part of a total Excel installation, they are covered by the 25 year warranty. Environ SR racks have a full range of compatible accessories including Environ Locking Solutions, which provide a choice of radio frequency identification (RFID) and biometric locks.

Watch this video for more information on the Environ range. The full portfolio of Excel Environ racks is also featured in the dedicated Environ racks catalogue.

CLICK HERE to learn more or call our team on 0800 757565 to discuss your requirements.
www.excel-networking.com

Unsung heroes

Jon Barker of Chatsworth Products (CPI) explains why enclosures, racks and cabinets form the foundation of white space infrastructure and serve as the starting point for any data centre

In an interconnected world, where organisations use a mix of enterprise owned and cloud based services, managing assets and white space remotely has become increasingly important. That process begins with a focus on the data centre cabinet and gaining an understanding of how the subsystems in the cabinet form an ecosystem to support information and communications technology (ICT).

SELECTION PROCEDURE

Whether you want a bright, spacious and functional data centre that enables quick and organised moves, adds and changes (MACs), or a high tech room that aims to occupy as much or as little physical footprint as possible to maximise utilisation, it's important to zero in on the main purpose and fully understand your application needs and goals when selecting your IT cabinet solution.

In the data centre, a power and cabinet ecosystem is the integration of hardware – the cabinet and anything inside or connected to the cabinet – and any software that specifically supports or enhances the hardware's functionality. When this combined infrastructure is provided by a single manufacturer the ecosystem thrives, allowing you to make more informed decisions more quickly on the path to achieving total data centre optimisation.

A highly configurable, high density cabinet provides future readiness, speed of deployment and allows for optimal use of floorspace. With the ability to configure and customise cabinets to fit your specific application, you'll also be able to address critical concerns such as:

- Effective and efficient power distribution

Rackmount power distribution units (PDUs) are a well-established solution for distributing power into equipment racks. Advanced, power hungry equipment requires robust PDU functionalities that allow monitoring and control of power down to the outlet level, helping IT professionals maximise efficiency.

PDUs can be used in high density cabinets full of 1U or 2U rack servers,

or a few server chassis or networking switches. Intelligent PDUs further help prevent equipment failures and empower IT professionals to properly prepare for maintenance operations without disturbing system uptime.

• Control airflow management

Reducing data centre cooling costs is a priority. An effective thermal management strategy that utilises practical concepts like passive cooling allows the data centre cabinet to support high density equipment, while promoting better energy efficiency and lowering costs.

By implementing an airflow containment strategy, it's possible to isolate, redirect and recycle hot or cold exhaust air into or out of equipment. Airflow containment offers significant return on investment and as much as 50 per cent in energy savings.

Within the cabinet it is important to have a front/rear barrier so that cold air flows through equipment, but hot air does not circulate around. Within the room it is important to isolate hot air and give it a path to return to the air handlers. Solutions mount on the top of cabinets and guide hot exhaust air from the enclosure to an overhead drop ceiling or ductwork to create a closed hot air return pathway to the cooling system.

• Flexible organisation of cable management

Because cabling is the backbone of any network, a large part of the equation is the level of network performance offered by the cable management structure you select. This is especially true when you consider that cable management can enable – or just as easily inhibit if not done correctly – everything from the signal integrity of a single cable to the overall performance of a large data centre.

‘Reducing data centre cooling costs is a priority. An effective thermal management strategy that utilises practical concepts like passive cooling allows the data centre cabinet to support high density equipment, while promoting better energy efficiency and lower costs.’

For the best cable performance, specify continuous support for cable including vertical and horizontal cable managers and overhead cable runway. Whenever cable changes direction, data centre managers should specify support that creates a wide turn for cable to follow. It is recommended to bundle cables with wide reusable straps and use cable spools to control patch cord slack within cable managers.

Also, it is recommended to select cable managers that are large enough to maintain cable bend radius when cables enter/exit the managers. Using 50 per cent fill as selection criteria for vertical and horizontal managers is a simple way to do this.

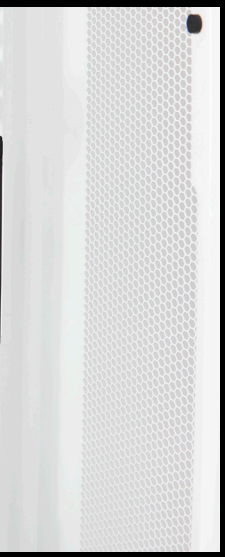
FUNCTIONAL CABINETS

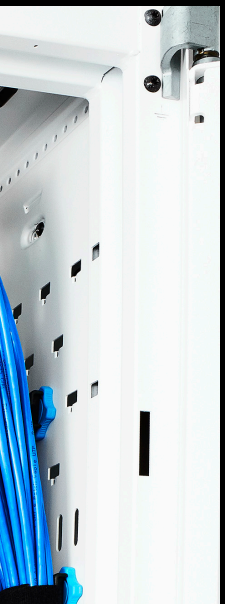
As organisations place their assets into data centres, IT managers are being tasked with delivering increasing levels of performance, while still retaining optimal efficiency levels, and must work hard to cut costs and meet demanding deadlines. Innovative, functional cabinets do not have the same level of sophistication as high density cabinets but data centre managers will still need to take aesthetics and performance into consideration when selecting the most appropriate data centre cabinet.

Cabinets with a simplified design and fewer technical features will continue

to address the requirements of modern data centre requirement including:

- Allowing for scalability and network upgrades
- Managing and protecting cabling and equipment in a simple but affordable way
- Providing open rack accessibility with cabinet security
- Delivering thermal management to ensure uptime





SINGLE MINDED

No matter what situational environment data centre managers are planning to kit out, whether functional or high density, it's wise to consider a single supplier that can design, manufacture and deliver a complete ecosystem solution for an expertly designed, ideal mix of configurability, future proof strength and robust features. This will allow for maximum space utilisation and equipment support.

In addition to satisfying all the technical product requirements, working with a manufacturer that provides a fully integrated solution is key. This kind of manufacturer can help ensure fast delivery, easy sourcing, customisation and pre- and post-sale services that enable and make good on the promise of a complete ecosystem approach.

PATH TO ENLIGHTENMENT

An effective power and cabinet ecosystem will provide you with a simplified path to white space management, allowing you to consistently manage, monitor, power, protect, optimise, support, control, organise and simplify your operations. ■

JON BARKER

Jon Barker is CPI's technical manager for Europe. He has over 25 years' experience in the engineering industry, with 15 years specialising in data centre infrastructure. As technical manager, Barker serves as a technical contact, accountable for resolving pre- and post-sales technical support questions and issues, and provides support to CPI's sales team by delivering product and technology based presentations to customers, channel partners and industry event audiences.

Achieving the highest possible level of power availability with Centiel's CumulusPower

Ensuring a continuous supply of clean power is vital in critical environments such as hospitals, data centres and commercial institutions. Even the shortest interruption could cause significant damage to equipment, financial losses or even endanger lives. An uninterruptible power supply (UPS) system is used to provide power when the main source is interrupted, or even fails, and it also ensures a high level of power quality. Therefore, installing a UPS that offers the highest level of availability is of paramount importance.

Over the years, technological advances in architecture have increased the levels of availability that UPS systems offer. The fourth generation of the true modular UPS CumulusPower, designed and manufactured by Centiel, now provides the highest level of availability on the market (nine nines). This means that the risk of downtime is reduced significantly. To put this into perspective, the third generation of modular UPS and most commonly used architectures offer only six nines availability, which represents seconds of downtime per year. CumulusPower has now reduced this to milliseconds.

Centiel's true modular UPS CumulusPower also offers increased levels of flexibility. This enables organisations to adopt a pay as you go approach and ensuring continuous rightsizing to minimise energy usage and running costs, reducing overall total cost of ownership (TCO).

Uniquely, CumulusPower also offers safe hot-swap capability. This means a module being added to a system can be fully isolated and tested within a running frame before it accepts any load. It also mitigates the risk of human error to ensure the module exchange is completed safely. CumulusPower's Distributed Active Redundant Architecture (DARA) makes the safe hot-swap possible. Without it, any issue with a module going into a live system could have catastrophic consequences and the load could be lost.

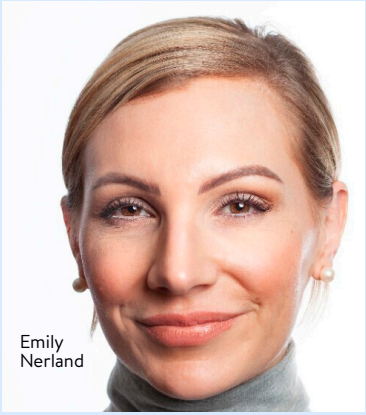
CumulusPower also reduces TCO through high double conversion efficiency of →97.1 per cent. As a result, CumulusPower provides the highest level of availability possible and is currently the safest, most reliable and flexible UPS available for critical power protection.

CLICK HERE for further information about Centiel's full range of Swiss quality UPS systems and maintenance options.

www.centiel.co.uk

NS1 appoints Emily Nerland as head of global sales

NS1 has appointed Emily Nerland as its head of global sales. Nerland brings extensive experience in executing effective go to market strategies for networking and cloud technologies, and will be instrumental in evangelising NS1's foundational networking infrastructure solutions globally.


Emily Nerland

Nerland comes to NS1 from Masergy, where she was managing director for EMEA. In this position she was responsible for growing the region through direct and indirect channels by leading the go to market team to deliver on the value proposition of the organisation.

'Emily has extensive experience leading teams for fast growing companies and is an expert in developing and executing strategies that result in successful customer outcomes,' said Andy Hershey, chief revenue officer at NS1. 'She understands the role our technology plays in digital transformation and she will be instrumental in building and executing strategies to share our value proposition with partners and enterprise organisations across the world.'

Nuvias Group adds SimSpace to its distribution portfolio

SimSpace has chosen Nuvias Group as its first distributor in the UK, as it looks to embrace a partner led business model and establish its position in the UK IT channel. Nuvias Group's strong partner relationships, technical specialism and ability to bring new technologies to its partner base are significant factors in the SimSpace selection.


Lee Driscoll

The addition of SimSpace to the Nuvias Group's portfolio will address the increasing demand in the channel for cybersecurity solutions. Currently, only one per cent of enterprises use cyber ranges, but this is set to grow to 15 per cent by 2025 according to Gartner. Nuvias Group's latest UK Channel Partner Survey also identified IT visibility as a key emerging need from partners, and the SimSpace platform addresses this need.

Lee Driscoll, managing director UK and Ireland at Nuvias Group, said, 'SimSpace complements our existing cybersecurity portfolio, adding a highly innovative approach to cyber defence in an era of heightened risk for all. With the current shortage of technical specialist personnel, an intelligent, automated platform is an attractive option for many businesses to secure their network and data integrity.'

Networks Centre launches one stop shop for Siemon high speed cable assembly solutions

Siemon and Networks Centre have collaborated to launch a new online platform where customers can purchase Siemon's quality range of high speed cable assemblies, which are ideal for a range of high speed, low latency applications across today's data centre environments. The HSI Centre is a one stop online shop offering Siemon's complete portfolio of direct attach copper cables (DACs) and active optical cables (AOCs) for top of rack (ToR) switch to server deployments.


Ryan Harris

The website allows customers to filter the comprehensive DAC and AOC catalogue by product compatibility with different switch vendors, by transmission speed or by connector type. Once selected, customers can then choose between different cable lengths for optimum manageability and airflow, as well as colour options depending on their individual needs.

'Data centre designs are constantly evolving to match changing business needs,' said Ryan Harris, high speed cable assemblies market specialist at Siemon. 'At the same time, server transmission speeds are swiftly moving towards 25Gb/s and 50Gb/s in enterprise and 100Gb/s in cloud data centres. The HSI Centre offers the go to place for anyone tasked with data centre upgrades or extensions and looking for high quality, easy to install and cost effective solutions for server to switch connections.'

CHANNEL UPDATE IN BRIEF

Peak Technologies has been recognised with two prestigious carbon reduction awards. It won the THG Eco 1-Star Company Carbon Neutral Certification award from MyCarbon and was also recognised with a bronze medal from EcoVadis.

Nokia has signed a strategic alliance with Furukawa Electric to accelerate optical fibre LAN deployments in Latin America.

Vertiv has named Cheryl Lim the company's new chief human resources officer (CHRO).

Stulz has renamed its prefabricated modular data centres and micro data centre solutions subsidiary Stulz Modular. The company is also celebrating the first operating year of its Jürgen Stulz Test Center. Located in Esquivias, Spain, it offers air conditioning test capacities of up to 1MW on an area of 1,110m^2, making it one of the most powerful facilities of its kind for mission critical cooling systems in Europe.

Emtelle has appointed Mark Bakker as sales and solutions director for Benelux (Belgium, the Netherlands and Luxembourg). Based in Amsterdam, he brings a wealth of experience to the role thanks to a career in business development and solutions spanning more than 25 years.

Another leading global manufacturer **partners with Dunasfern.**

Dunasfern has been appointed as a **Premier Distributor** for **Rittal products** focusing on the **Data Infrastructure and networking IT market**. With our in-house assembly facility, we will be able to offer customers a fast turnaround for standard and bespoke cabinets designed by customers utilising the Rittal RiMatrix NG configurator. Although the focus will be on IT racks, we will have access to the complete Rittal range.

Dunasfern General Manager, Glenn Ward with Rittal UK Partner Programme Manager, Neil Battery

Fast delivery of Rittal VX IT Racks direct to site and assembled exactly to your chosen specification.

The RiMatrix NG is a rack configurating software programme that enables customers to easily design the rack to their exact requirements to create a bespoke finished product and quickly assembled at our facilities in Milton Keynes.

- Save time due to simple configuration and ordering process
- No more errors when selecting accessories
- Easier planning thanks to the instant product list and price display
- Faster processes through integrated interfaces to Eplan and Rittal software

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DUNASFERN

Root cause analysis

Julio Petrovitch of NetAlly offers a guide on how to simplify Wi-Fi testing and troubleshooting

We have all encountered them – the dreaded 'Wi-Fi is not working' complaints from network users. You're peacefully getting some work done at the office and then out of nowhere someone comes in and starts complaining about not being able to connect to the wireless network, or about the wireless network being slow, about getting disconnected from the wireless network all the time, about not being able to connect to the internet, and so on.

EASY DOES IT

These are all common complaints, and all of them concerning since figuring out the root cause of these issues can be very time consuming and sometimes difficult. Or is that really the case? Could it be possible that solving these common wireless problems is not that difficult after all? In reality, with the right tools and a little knowledge, finding the root cause of the most common wireless network problems can be quick and simple.

Before you can start troubleshooting Wi-Fi problems, you need to find out if that is really where the problem lies. After all, many times the root cause of the user's issue is not Wi-Fi related at all. Sometimes connectivity, roaming or slow speed problems could be caused by issues on the wired Ethernet backhaul network, network services, client device limitations or even the internet service provided by your internet service provider (ISP).

TESTING TIMES

The easiest way to validate if there really is a problem with the Wi-Fi network is using a tool that can help you test both Wi-Fi network and backend services performance. Using a 'known good' device to validate authentication and connectivity and then test network services such as

DHCP, DNS and gateway availability and performance helps to understand where to take the next step in your troubleshooting process. Using throughput test tools from both local wired and wireless network connections to identify what's different should be part of your triage process too.

FINDING OUT

After ruling out problems with network services and proving that the issue reported is indeed on the Wi-Fi network, it is time to find the root cause of the issue. Some of the most common causes for connectivity, roaming and slow speed problems on Wi-Fi are:

• Signal coverage

Poor coverage is still one of the most common reasons for Wi-Fi connection problems. After all, if Wi-Fi devices can't hear each other then they can't communicate.

Many Wi-Fi troubleshooting tools will help you measure access point signal strength, but the best way to identify signal coverage problems in your site is by performing a site survey so that you can visualise network coverage in the problem area. Coverage problems are normally resolved by adding more access points, using antennas with a higher gain or increasing the transmit power of the access points. Keep in mind that increasing the power will also increase the noise levels, thus it is normally recommended to go with better antennas or more access points.

• Signal to noise ratio (SNR)

The quality and rate of a connection depends directly on the SNR that a receiving device detects, which includes both access points and clients. There are not many tools in the market that allow you to accurately measure SNR.

The best option here is to acquire a purpose built tool with SNR measurement capabilities. Low SNR problems can be resolved by improving the coverage of your Wi-Fi network or by removing interfering non-IEEE 802.11 devices that increase the noise floor in your environment.

• Co-channel interference (CCI)

One of the most common reasons for slow Wi-Fi network speeds is excessive CCI, which happens when you have too many access points operating on the very same channel. You can identify

'Before you can start troubleshooting Wi-Fi problems, you need to find out if that is really where the problem lies. After all, many times the root cause of the user's issue is not Wi-Fi related at all.'

CCI problems by looking at all the active access points covering a specific area and validating that they are working on different channels. The best practice is to use a site survey tool that will automatically highlight problem areas in a floorplan.

To resolve CCI problems make sure that you minimise the number of access points on your network operating on the same channel. Many access point controllers will do this for you automatically, but best practice is to use a Wi-Fi design tool to automatically calculate access point channel assignments before deploying the network.

• Adjacent channel interference (ACI)

Another common reason for slow Wi-Fi network speeds is ACI, which happens when transmissions on nearby channels overlap, resulting in transmissions on one channel interfering with transmissions on a nearby channel. You can identify ACI problems by looking at all the access points covering a specific area and validating that they are indeed working on non-overlapping channels. Still, the best practice is to use a site survey tool that will automatically highlight problem areas in a floorplan.

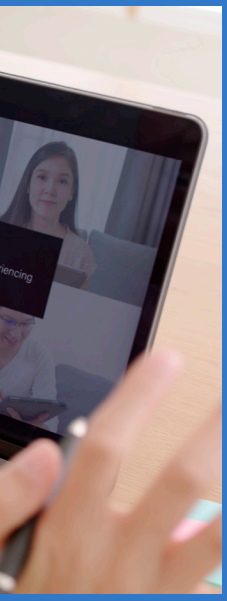
To resolve ACI problems make sure that access points on your network with overlapping signals are working on completely non-overlapping channels. Many access point controllers will do this for you automatically, but best practice is to use a Wi-Fi design tool to automatically calculate access point channel assignments before deploying the network.

• Non-IEEE 802.11 interference

There are many other radio transmissions or radio frequency energy sources besides Wi-Fi that can occur in the same frequency bands. Some examples of technologies that can interfere with Wi-Fi are Bluetooth/

BLE devices, cordless phones, microwave ovens, ZigBee devices and wireless security cameras.

While Wi-Fi devices have a high tolerance for such transmissions, these non-IEEE 802.11 transmissions do not obey the same rules of airtime sharing and can present a significant source of interference, which can slow down Wi-Fi network speeds. The easiest way to identify and locate non-IEEE 802.11 interference sources is using a spectrum analysis tool. It is recommended that you acquire a spectrum analyser that can automatically identify interference sources for you.



Non-IEEE 802.11 interference problems are normally resolved by removing or disabling the interfering device or changing the channels being used by your access points (which many access point controllers will try to do automatically).

• Network authentication

Security is a necessity but managing security on access points and clients is not always easy. Any passphrase mismatch, certificate missing, client device limitation or configuration mistake can leave client devices unable to connect to the Wi-Fi network.

You can easily validate Wi-Fi network authentication by using a tool that will allow you to test from the perspective of other client devices. The tool should also support all modern authentication and encryption methods, plus the ability of spoofing MAC addresses to validate the proper operation of access control lists. After identifying a security authentication problem, you usually just need to validate the configuration on the client device, wireless network or authentication server to resolve the issue.

SOLUTION PROVIDER

Wi-Fi network problems don't have to be difficult to troubleshoot or resolve. With the right tools providing the visibility you need, and a little knowledge, you should be able to quickly differentiate between Wi-Fi and wired backhaul problems, identify the root cause and resolve network issues reported by end users easily. ■

JULIO PETROVITCH

Julio Petrovitch is a product manager at NetAlly, plus a certified CWNA/CWAP/CWDP/CWSP. He's worked with network design, testing and validation for more than 15 years, and has had the opportunity to work with multiple networking technologies.

Quick clicks

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

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The State Of Industrial Security In 2022 is a report from **Barracuda.**
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IT Efficiency: The Critical Core Of Digital Sustainability is a report by **Uptime Institute.**
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5 Important Considerations When Selecting An Effective Maintenance Program For Data Center Physical Infrastructure is a blog by Wendy Torell of **Schneider Electric.**
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Common Data Center Cable Plant Designs is a blog by Andrew Froehlich of **AEM.**
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Structural analysis

Lee Funnell of Siemon explains why intelligent buildings must focus on their occupants and what we really need to consider to bring them to life

Whichever way we look, we can see the huge changes that digital transformation is bringing to our personal and business lives. Both technical innovation and the growth in data volumes and throughput have been pushing the need for improved intelligent, converged designs in the building space. This has also meant developing relationships with the right vendors, integrators and installers to deliver the buildings of the future.

PREDICTIVE TEXT

Research into the intelligent buildings space is constantly predicting unprecedented growth in the market year on year. According to a recent research report by MarketsandMarkets, the market is expected to grow to $121.6bn by 2026. But as I cite this prediction, I am wondering where these buildings are at in truth, as many are still being designed under an approach of separated silos focused on technology that is available today.

The trouble with designing a new building, or carrying out a deep retrofit, today is that the planning, design and implementation phases can easily take two years or more, meaning that by the time of completion technology

will have likely moved on. With the need for longevity and flexibility in our building spaces, much of that installed technology will quickly become obsolete as innovation continues to create smarter systems that increase both productivity and efficiencies.

Understanding the business needs, the drivers for an intelligent workspace, the benefits and costs are key elements to be factored in from the start of any project. In other words, rather than putting the sole focus on technology, it's important to consider what the building actually needs to deliver back to the business, what the building can offer to the office based staff and how can we use these insights to drive increased user productivity and engagement with the work environment.

USER FRIENDLY

An intelligent building provides services to support the user. These range from enhanced security systems and management, support for mobile applications, location services, intelligent waste management and cleaning cycles, air and water quality management, digital audiovisual (AV) systems, room booking, intelligent lighting and, of course, improved and more detailed energy analytics.

Technology is continually changing, so building control and management will become greener and cheaper by default. However, staff will remain the constant element and should be the most critical part that determines how you want the intelligent space to operate. The World Green Building Council stated that employees account for 90 per cent of a company's operating costs. This reinforces the belief that it is critically important to establish what a building needs to deliver to its users by engaging with them directly and providing an open forum to review and discuss operational cost savings.

I would advise carrying out staff consultations on what exactly they want the building to deliver. This discussion should be focused on tangible items such as improving wellbeing through improved air quality controls; heating, ventilation and air conditioning (HVAC) systems; integrated

'The trouble with designing a new building, or carrying out a deep retrofit, today is that the planning, design and implementation phases can easily take two years or more, meaning that by the time of completion technology will have likely moved on.'

lighting systems; security systems; the AV experience; access to green spaces etc. This will lead to increased staff retention, loyalty and engagement, and will remain a critical element as we recalibrate to our new normal.

BACK TO LIFE

The underlaying foundation enabling intelligent spaces must be a highly flexible cabling infrastructure – one that is designed with the smart building, not just traditional data points, in mind. A zone cabling design provides the highest flexibility, because horizontal cables run from the telecommunications room to an intermediate connection point and from there shorter, easy to manage links connect directly to devices such as Wi-Fi points, LED lights, security cameras, wireless access points, building automation controllers, or to outlets serving voice and data.

The benefit of zone cabling is that it enables rapid reorganisation and faster, less disruptive moves, adds and changes because they are only limited to the shorter cabling link between the zone enclosure and the device, instead of the entire length of horizontal cabling. A 12 or 96 port zone enclosure, for example, allows for rapid initial deployment and the integration of

new devices into the existing structured cabling system, with minimal disruption to the occupants.

MAKE THE CONNECTION

If sensors are then connected to devices, they can continuously gather a range of rich data on important parameters such as temperature, humidity, air quality, occupancy levels and activity patterns. Sensors can also be deployed to see how spaces are being used, so they can be better maintained in terms of predictive maintenance cycles and fault detection. Eventually, sensors sit all across the smart building, detecting and sending information that helps make a change to that space, adjusting it to the needs of the user for an improved experience.

The cabling infrastructure will typically far outlive the technologies used within the building space and, as a result, when it comes to selecting the cabling media, I would recommend a Category 6A or higher performing copper cabling system. With a product lifecycle of 10-15 years it allows for longevity and flexibility regardless of the technology used and will support the needs of a business today and tomorrow.

Category 6A copper cabling also delivers the 10Gb/s performance required to support higher bandwidth demanding devices such as the latest Wi-Fi 6 access points. Other benefits include remote power delivery to connected systems and devices, and shielded Category 6A and Category 7/7A copper ensures thermal stability for improved network performance.

SUPPORT STRUCTURE

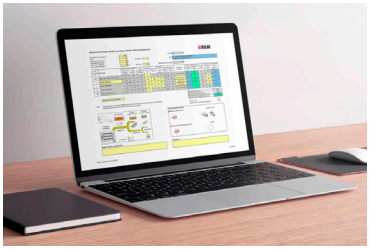
Any new technologies will require extensive training and support for both the system designers and the end users themselves. This will not come solely from technology vendors or manufacturers but from the system integrator, which is intrinsic in successfully combining these technologies and unifying platforms as a single converged system network that delivers upon the 'vision'. ■

LEE FUNNELL

Lee Funnell has worked in the telecommunications industry for over 25 years. He has 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 services group 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.

R&M

Power over Ethernet (PoE) provides excellent support for building automation, however, planning PoE cabling is challenging, especially now that categories of standardisation have been added. With the four-pair 4PPoE variant 90W can be provided to power terminal equipment. The related potential warming forces planners and installers to pay particular attention to the choice of cables, link lengths, the installation and underlying conditions.



For this reason, new installation standards were adapted in 2020 – EN 50174-2 for Europe and the globally applicable ISO/IEC 14763-2. Remote power categories RP1 to RP3 provide project managers with additional guidelines and requirements when designing PoE installations. Although RP3 makes life much easier for building operators, this category is a challenge for planners.

The latest V3 of R&M's PoE Calculator incorporates these remote power categories and allows cabling to be modelled more precisely than is possible with the standard tables.

CLICK HERE for more information
www.rdm.com

Panduit

Panduit's RapidID creates a network map using patch cord scanning techniques. The software enabled network mapping system supports smart, scalable and efficient connectivity solutions.

RapidID is designed to reduce the time and cost of patch cord documentation by up to 50 per cent. Using prelabelled Panduit patch cords and the RapidID Bluetooth enabled handheld scanner, network engineers can place, trace and replace cables to create a comprehensive network map far more effectively.

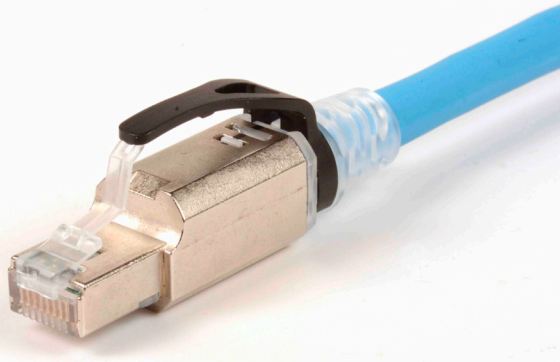
The network mapping capability automates the labour intensive and often error prone cable documentation process to reduce the risk of a network outage and costly downtime. RapidID is a practical alternative to traditional manual approaches and is suited to building a new telecom room, locating installed cables or replacing a network switch.

Each prelabelled patch cord has a unique barcode and using the handheld scanner the engineer can automate labelling, tracing and troubleshooting in three easy steps:

- Install Panduit cables that feature the barcode labels
- Download the mobile app from iOS or Android app stores to a tablet device
- Scan barcodes using the Bluetooth enabled handheld scanner

To find out more **CLICK HERE.**
www.panduit.com

Siemon



In an ever-changing landscape it is critical to have infrastructure solutions that can keep pace with your business needs. To support you, Siemon provides a range of industry leading Category 6A solutions perfectly aligned to your intelligent building requirements.

The Z-MAX Category 6A copper cabling system offers best in class performance, with the industry's fastest termination and remote powering capabilities. It provides an ideal IP-based physical infrastructure to effectively converge data, voice, video, lighting, security, building automation and other low voltage building systems in today's intelligent buildings. For your field termination needs the Siemon Z-PLUG enables the seamless connection of power over Ethernet (PoE) devices for a range of applications including lighting, wireless access points, audiovisual equipment, distributed antenna systems (DAS) and building automation systems (BAS).

Z-PLUG can be terminated to both shielded and unshielded, solid and stranded cables, and eliminates the need for work area outlets and patch cords, enabling custom length cables that can be terminated on-site for quick connections directly to the end device.

To find out more **CLICK HERE**.

www.siemon.com

NetAlly

NetAlly's innovative test solutions have been helping network engineers and technicians better deploy, manage and maintain complex wired and wireless networks for decades.

For more than 25 years, we have been the number one ally of network professionals worldwide. We began by making the world's first handheld network analyser – the LANMeter – and have continued as industry pacesetters ever since.

Voted for 2021 Network Infrastructure Product of the Year and CI&M Cabling Innovators Award, NetAlly continues to set the standard for portable network testing. We are passionate about innovation and motivated by one purpose – to create the best test equipment possible, designed with your success in mind.

Network professionals around the world trust our best in class tools to deliver the visibility needed to get the job done, fast.

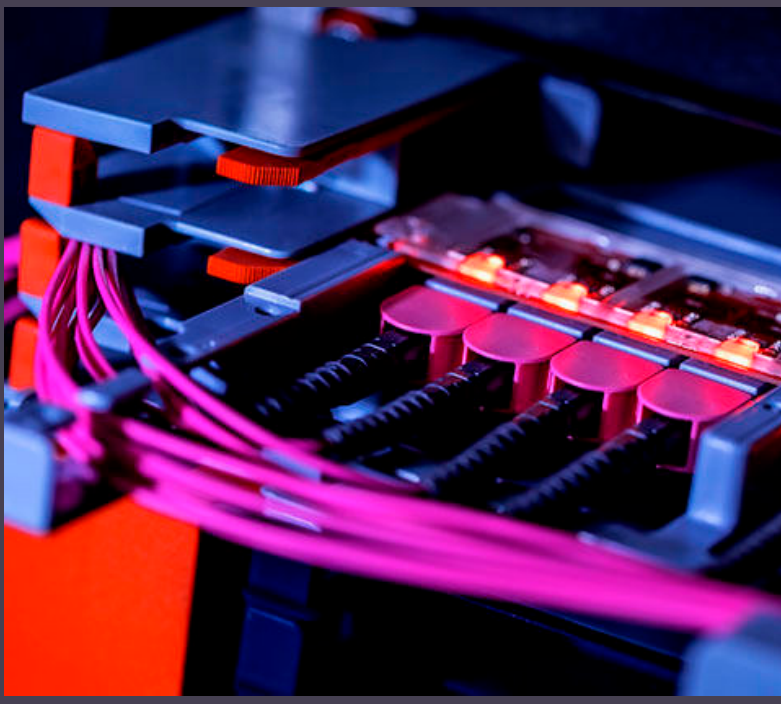
To find out more **CLICK HERE.**

www.netally.com

Building a brighter tomorrow

Andreas Rüsseler of R&M examines why convergence means creating a foundation for time when every kind of network communicat will move to a ubiquitous optical fibre backbor

Convergence is currently an important trend, as 5G and fibre networks are joined up. However, convergence isn't just limited to linking wired and wireless networks – it also means building a foundation for tomorrow when network communication will depend on a fibre backbone. So, what are the benefits of convergence and what might we need to take into account?



COME TOGETHER

In recent years we've seen wireless and wired connectivity converge, utilising fibre cabling. 5G and FTTX will continue to merge – after all, without adequate fibre backhaul and fronthaul (access networks), there can be no 5G.

Combining 5G with fibre rich network cabling makes it possible to meet fast growing 5G speed requirements, using small cells to eliminate bottlenecks, on a single network. This also makes it possible to maximise the use of all system assets and, therefore, improve return on investment (ROI).

As complementary solutions, 5G and FTTH can share network infrastructure. Both rely on availability of fibre and both require a significant number of fibre connection points. Combining infrastructure and rollouts for both

technologies offers great opportunities to increase efficiency and realise cost improvements in the coming years.

MAKING SENSE

Fibre to the home (FTTH) studies show this makes sense from the perspective of technology as well as business. A 2019 study from the FTTH Council Europe shows that anticipating a fibre to 5G antenna/base station (FTT5G) network, while planning for a FTTH network, can deliver cost savings between 65-96 per cent. In short, it pays to build in ample spare capacity for 5G

today's vast demand for bandwidth, 100Gb/s and 400Gb/s might be standard sooner than we imagine.

Fibre allows data centre operators to migrate to higher speeds relatively quickly and easily – something that cannot be achieved with copper cabling infrastructure. Local networks can establish long distance connections via a fibre backbone providing fast, high capacity connectivity between data centres, edge data centres and end users. Some data centre operators are even developing their own point to point optical fibre networks

when rolling out a fibre network. Especially because in the future fibre network convergence will expand to include more than FTTX and 5G.

Data centres are also ready to join in the convergence trend. In order to meet

in order to realise cost savings, while accommodating bandwidth growth and increasing flexibility. Also, more and more enterprise micro data centres are being linked via fibre based access and backbone networks.

TREND SETTING

Besides wireless networks and edge data centres, other trends are driving the need for bandwidth, uptime and therefore fibre. The internet of things (IoT), incorporates digital building management systems, all-IP networks and digital ceiling networks. According to Statista, the IoT will connect over 75 billion devices by 2025.

IP based convergence enables the sharing of resources across applications and provides high levels of standardisation, availability, reliability and support for new deployments. An all-IP approach extends the data network and power over Ethernet (PoE) through an entire building's ceiling, making it possible to connect devices to building automation via zones with pre-installed overhead connecting points. All areas of building automation can be integrated into a structured solution concept. The introduction of smart, converged networks means energy conserving technologies and applications can be introduced, such as intelligent management of building space, resources and LED lighting.

Smart cities and autonomous traffic will also drive the need for fibre and convergence. Once 5G is widely available, people will use more streaming and remote working services on the go, as well as more virtual and augmented reality applications.

SETTING THE STANDARD

Convergence offers greater flexibility, scalability and uniformity. It allows users to make the most of increasingly sophisticated system intelligence. It provides enormous efficiency increases, from both technical and business perspectives, by centralising management of IT resources, consolidating

'IP based convergence enables the sharing of resources across applications and provides high levels of standardisation, availability, reliability and support for new deployments.'

systems, boosting resource utilisation rates and lowering costs. Deployment of converged networks helps reduce overall power consumption, improves cooling efficiency and enables the introduction of further energy saving measures.

Within a few years, every network will operate on the same combined fibre backbone. Data communication, mobile, video and everything else will merge on to a coexisting network – which implies that we need to stop thinking in discrete networks. The benefits include reduced investments in rollout and maintenance, phasing out of legacy technologies, and a unified underlying technology and interfacing. Network operators and users can focus on their core business and develop applications that exactly match requirements, interact across systems and platforms, and are always up to date.

DEFINING MOMENT

Previously, we would use a separate device for each specific function, but now we need to define different functions and integrate hardware and software. That requires greater attention to interoperability, integration, standards, monitoring and optimisation. It's important to realise that top quality products are only half the solution. When it comes to a holistic approach to networks, you need to fully understand the needs of every part of the network – and how different networks fit together – in order to provide the right solutions! ■

ANDREAS RÜSSELER

Andreas Rüsseler has been chief marketing officer (CMO) at R&M since 2012. He studied communications engineering at the University of Emden and completed a master of advanced studies in business administration and engineering at the University of St Gallen. He has a long history in fibre optics and communications business, and worked for Deutsche Telekom, Quante AG, 3M and Huber+Suhner before joining R&M.

Virgin Media O2 Business to provide dark fibre for all Proximity edge data centres

Virgin Media Business Wholesale – the wholesale fixed division of Virgin Media O2 Business – and Proximity Data Centres are now working together to deliver network services including diverse dark fibre and optical high capacity services up to 100Gb/s to customers across Proximity's portfolio of regional colocation data centres.

Currently over 50 per cent of Proximity's UK-wide network of edge facilities include Virgin Media Business Wholesale connectivity options. The Nottingham Edge 1 data centre is the most recent to benefit from an upgrade to include two diverse Virgin Media Business Wholesale fibres.

Proximity's network of Tier 3 facilities currently serves major conurbation areas in the North, North West, Midlands, Thames Valley, the South West and South Wales. It enables enterprise businesses, cloud and content providers to maximise competitive advantage through reduced latency and data transit costs, enhanced operational efficiency and more responsive customer service.

Birmingham's Commonwealth Games used cutting edge BT 5G private network for broadcast coverage

BT worked alongside the BBC at Birmingham's historic Commonwealth Games to trial a standalone 5G private network for broadcast coverage of the event. The organisations worked together to provide the network in Birmingham's Victoria Square, which was used to screen the arrival of the Queen's Baton live on BBC One's The One Show.

BT deployed the trailer variant of its portable private network, which provides bespoke 5G coverage, as well as a range of application capabilities. The trailer vehicle can enable customers to deploy a network in a challenging environment, or to trial how 5G can enhance their business operations. BT's Media and Broadcast unit, part of its Enterprise business, set up the secure portable network in the square, providing ultra-fast speeds and low latency of 5G during its coverage.

Leeds United FC improves customer experience thanks to Allied Telesis and NETprotocol

Leeds United Football Club (LUFC) is improving the customer experience for fans and visitors when using the turnstiles at its Elland Road Stadium. This will be the result of an upgrade to its existing Allied Telesis high capacity resilient network core.

The smooth working of the turnstiles, along with all other aspects of the club's business, depend on reliable connectivity thanks to a high capacity Allied Telesis network that has been in steady operation with no downtime for a decade and a half. Designed, installed, maintained and supported by NETprotocol, the network covers the club's Elland Road Stadium in Leeds and its training grounds 20km away in Thorp Arch, Wetherby.

From a network perspective, LUFC needed around the clock no fail network operations for all its internal businesses within the stadium grounds. With nearly 200 cameras around the stadium, the CCTV is a key part of the infrastructure that is designed to protect the 40,000+ fans and workers in the stadium on game days. As a failure of the CCTV system would trigger cancelation of a match, NETprotocol installed a dedicated network layer using an Allied Telesis switch that supports power over Ethernet (PoE) to each camera around the campus.

PROJECTS & CONTRACTS IN BRIEF

Datum Datacentres will be transitioning from diesel to renewable hydrotreated vegetable oil (HVO) fuel for its back-up generators at its flagship facility on the Cody Technology Park, Farnborough. Working in partnership with Keysource, this move will enable Datum to reduce up to 90 per cent of net CO2 emissions if its back-up generators are used.

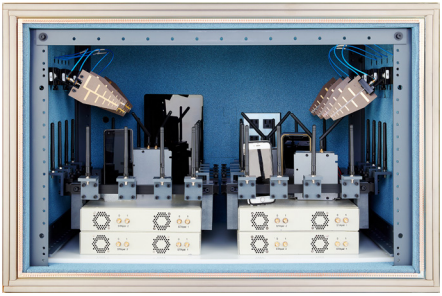
The Department for Transport (DfT), the UK government department responsible for the English transport network, has invested almost £10m in devices to help propel hybrid working.

CBRE has facilitated the sale of 615 acres in Fayetteville, Georgia, to Kansas based Quality Technology Services (QTS). QTS plans to develop the world's largest multi-tenant data centre campus on the property.

North has designed and installed an internet of things (IoT) based camera solution at Battersea Power Station to help keep a watchful eye on its most famous residents, the Peregrine falcons. The Battersea Power Station Smart Nest uses IoT technology to not only give visuals of the birds of prey in their home environment but provide meaningful data that can be used by organisations to record and better understand their behaviour.

Spirent Communications

Spirent Communications has launched its new Send Us Your Device test as a service (TaaS) option for Wi-Fi customers. The service allows access to the advanced capabilities of Spirent's OCTOBOX emulation and testing solution to organisations where the capital expenditure and considerable expertise required to own and manage such complex test set-ups may not be an option.



The growing complexity of Wi-Fi technology is requiring developers and manufacturers to rethink their approach to performance testing for new Wi-Fi enabled devices. The progression of Wi-Fi 6 and 6E, growth of mesh multi-point access networks, and expectations around 5G and Wi-Fi convergence are creating new application and business models that require fresh approaches to testing.

The new service is targeted at companies with Wi-Fi testing needs but little or no on-site test facilities of their own, as well as organisations like chipset developers, internet of things (IoT) and consumer device makers, and network equipment manufacturers that need to perform regular Wi-Fi testing but may not have the in-house expertise to create, deploy and efficiently execute the range of performance tests the industry now requires.

CLICK HERE for more information about Spirent's Send Us Your Device test as a service for Wi-Fi devices.

www.spirent.com

Panduit

Panduit's SmartZone uninterruptible power supply (UPS) is simple to install and use and highly efficient. It offers reliable power with the capability to integrate into Panduit's SmartZone data centre infrastructure management software and provides intelligent systems and environmental alerts, consistent power protection and back-up for critical computer IT equipment.

The SmartZone UPS family offers excellent electrical performance, intelligent battery management and long lifespan. Compliant with ENERGY STAR 2.0, EMC and safety standards, SmartZone UPS meets the continually growing power demands of data centre, enterprise and edge IT equipment.

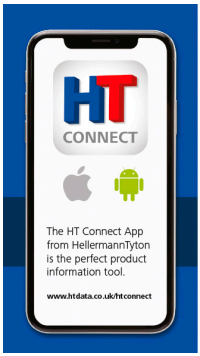
The rackmounted SmartZone UPS family focuses on high reliability, power density, efficiency and secure manageability. This UPS range offers models with various power ratings, configurations and battery types to meet application specific needs. It includes 1-3kVA, 5-10kVA and 10/15/20kVA online double conversion units, equipped with powerful and maintenance free batteries.

To find out more **CLICK HERE.**

www.panduit.com

HellermannTyton

The HT Connect App from HellermannTyton has been updated to include our new range of local area network (LAN) connectivity products. Designed to bring products to life in a live environment, HT Connect uses augmented reality (AR) through your mobile phone or tablet, allowing you can see a wide range of products on your desk, on a wall or even out on-site.



Using the app, take a closer look at our products, with many of the selected models having moving parts such as opening doors, removing covers or lifting trays. Use your touchscreen to rotate the products and zoom in up to 500 per cent.

HT Connect also provides additional product information including data sheets, installation guides and videos where available. This gives installers and engineers in the field everything they need at their fingertips when it comes to optical fibre network installation.

The app is available to download on both Apple and Google Play stores. To find out more **CLICK HERE.**
www.htdata.co.uk

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Mind the gap

Mike Carter of Inmarsat Enterprise examines how a skills gap is hindering businesses' adoption of the internet of things (IoT)

Over the past two decades technology has advanced more rapidly than ever, transforming the way we live and, in turn, how we do business. Businesses have been having to play catch-up by continuously adapting the way they operate to meet the latest technological trends. IoT is an excellent example of this.

CAUSE AND EFFECT

Since the introduction of IoT in the late 1990s, industry has gone through immense change very rapidly and to profound effect, leading to improved proficiency and productivity, especially for remote operations. More recently, the coronavirus pandemic undoubtably accelerated the adoption of IoT for businesses. In fact, recent research from Inmarsat has found that just under half of businesses have already accelerated deployments of their IoT projects following the pandemic, with a further two in five intending to do so within the next few years.

‘Businesses lacking the optimal mix of skillsets to select, deploy and utilise their IoT investments can turn to expert service providers to plug those skills gaps and, ultimately, get the best results.’

Businesses have been prioritising IoT adoption, with planned investment for IoT projects over the next three years expected to be at an average of over £2.9m per organisation. But as businesses look to accelerate their IoT projects, they need to look beyond the technology.

TALENT SCOUT

Despite being in the midst of an IoT explosion, what’s clear is that there is not enough talent with the right skills to manage and execute IoT projects. Insufficient staffing and a lack of expertise is the top cited barrier for organisations currently looking to implement and benefit from IoT. This, along with the backdrop of the pandemic and economic uncertainty, means companies continue to wrestle with ongoing challenges in IoT adoption.

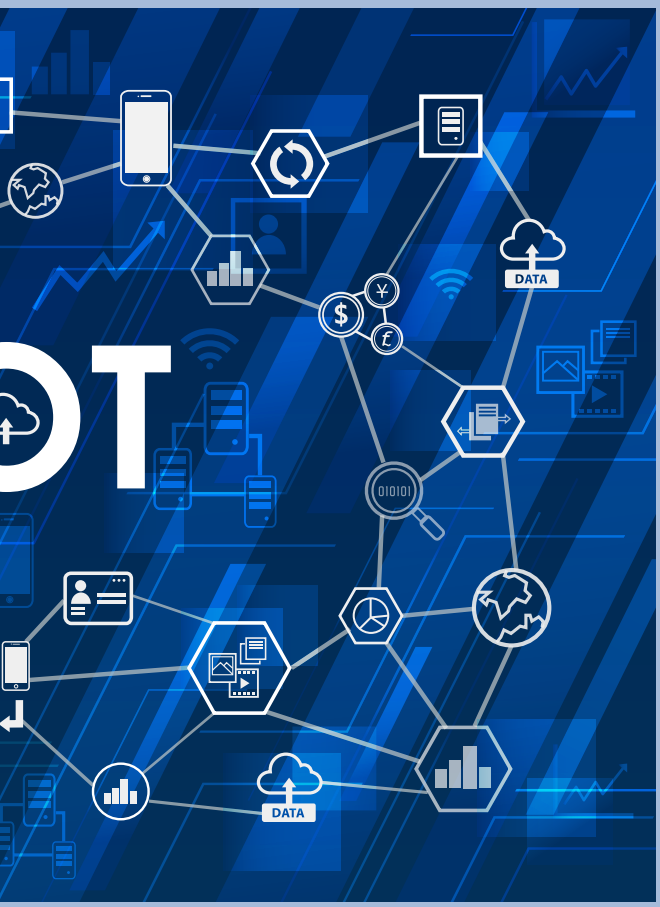
While bigger companies are more likely to have the resources required to bring in digital talent and upskill their employees, smaller organisations with fewer resources face an uphill battle in the face of an IoT skills shortage. There simply are not enough trained IoT professionals to secure the technology’s progress.

Inmarsat’s recent research uncovered that well over a third of organisations believe their IoT skills gap is their biggest barrier to successful IoT deployment. In addition, just under half require additional skills in data science and analytics, technical support and connectivity technology. If businesses do not have the skills needed to stay ahead of the curve with their IoT solutions, competitors who are more

successfully adopting new technologies will continually have the edge over them.

STRATEGIC DIRECTION

The IoT skills gap is a real problem for organisations. Fortunately, there are steps businesses can take to close their skills gaps and, in turn, optimise their IoT projects to get the most from their



investments:

• Develop a formal IoT strategy

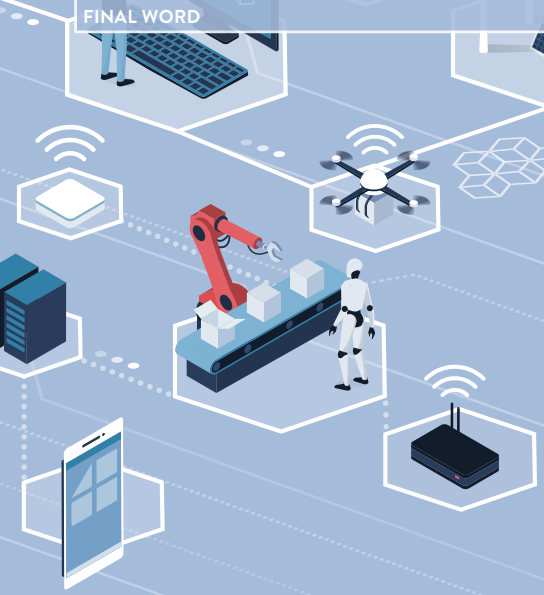
Having a formal IoT strategy outlining a businesses' goals and objectives for the technology helps create a virtuous circle when it comes to reaping the full benefits of IoT investments. By encouraging everyone to consider in advance what it will take to successfully rollout these projects, it sets the scene for successful implementation. For instance, ensuring that data is optimally produced, shared and analysed, requires the right skills.

With an IoT strategy in place, businesses can assess where their existing skills gaps are, plan to plug these and any gaps which could emerge in the future and reduce the risk of unforeseen circumstances getting in the way of progress. There are plenty of other advantages to formalising an IoT strategy from the start of any IoT project, but skills is certainly a key area to benefit from one.

• Prioritise IoT at the boardroom level

For IoT to be a sustained success, access to the relevant skillsets is needed at all levels. Despite the eagerness to adopt IoT, many businesses lack the strategic IoT skills needed in the C-suite or senior leadership team to integrate IoT fully into their overall business strategies. Less than a third of organisations claim to have all the skills they need at a senior level.

What's more, those organisations with a formal IoT strategy have far more strategic support for IoT at board level. This underlines the importance of having a strategic approach to IoT at leadership level and implementing the right policies to support this. Only then



will organisations – and leaders – be able to see from the offset where their skills gaps are, and how to fix them.

• Lean into your relationships with IoT service providers

If organisations do not have the resources to plug their skills gaps internally, they can turn to external partners to provide them. Businesses lacking the optimal mix of skillsets to select, deploy and utilise their IoT investments can turn to expert service providers to plug those skills gaps and, ultimately, get the best results.

Despite acknowledging the clear gap organisations have between the skills held in-house and those needed to deploy IoT projects, a minority turn to outsourcing as a solution. Inmarsat's research found that only a third of organisations typically look to partner with an IoT service provider to support an end to end solution and work with them to plan, implement and maintain it.

Larger organisations of over 5,000 employees are more likely to partner with IoT service providers, compared to smaller businesses. But companies of all sizes can, and should, work with solution providers to ensure that they have access to the skills they need in all areas. After all, the right skills don't need to be provided by full time employees.

Prioritising skills

Without the right skill sets in place, businesses will continue to struggle to make the best use of the data they gather – and they'll come across roadblock after roadblock when integrating IoT projects into the wider organisation. To maximise the benefits of the transformative role IoT can play for businesses, IoT skills should not be an afterthought – but a priority from day one. ■

MIKE CARTER

Mike Carter joined Inmarsat in 2016 and was appointed president of Inmarsat Enterprise in 2020. Before working for Inmarsat he served in a variety of commercial roles and as a senior officer in the British Army's Royal Engineers.

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