Inside_Networks

THE NETWORK INFRASTRUCTURE E-M

# Back to

## A REVIEW OF 2

2018

L

## Rise of the machines

IS THE IT DEPARTMENT A VICTIM OF ITS OWN SUCCESS?

AGAZINE WWW.INSIDENETWORKS.CO.UK

JAN
19

# the future

## 018 AND 2019 PREVIEWED


## Joined up thinking

DEVELOPMENTS IN COPPER AND OPTICAL FIBRE CABLE CONNECTIVITY

SIEMON™


siemon.com/wheelhouse

# ADVANCED DATA CENTRE SOLUTIONS

Siemon's WheelHouse® advanced data centre solutions, are a complete end-to-end product portfolio. Aligning the company's established line of cable and connectivity systems, cabinets, cable management and power distribution with an array of new product innovations, WheelHouse delivers a comprehensive range of quality, standards exceeding solutions to support any size and type of data centre, from large, high-performance computing environments and colocations, to small-to-mid size enterprise data centres.

Siemon's WheelHouse portfolio includes end-to end copper cabling systems, advanced fibre cabling, high speed interconnect assemblies, data centre cabinets - including preconfigured cabinets - racks, cable management and accessories, power distribution and infrastructure management. Siemon also provides comprehensive data centre design services, with a global team of dedicated experts ready to guide you through the process of selecting, designing and deploying the business-critical cabling infrastructure upon which your entire data centre will rely.

**CONNECTING THE WORLD TO A HIGHER STANDARD**

**WWW.SIEMON.COM/WHEELHOUSE**















# TECHNICAL DATA CENTRE EDUCATION PROGRAMS FOR THE DIGITAL INFRASTRUCTURE INDUSTRY

CNet Training

"I'd recommend CNet to anybody"
TECHNICAL SPECIALIST

## Masters Degree in Data Centre Leadership and Management

CNet Training | Anglia Ruskin University Associate College

3 Year Distance Learning

(Click here for more information about the Masters Degree program)

## Certified Data Centre Energy Professional

5 DAY PROGRAM

CDCEP®

(Click here for more information about the CDCEP® program)

## Certified Data Centre Audit Professional

CDCAP®

5 DAY PROGRAM

(Click here for more information about the CDCAP® program)

## Certified Data Centre Management Professional

CDCMP®

5 DAY PROGRAM

(Click here for more information about the CDCMP® program)

## Certified Data Centre Design Professional

5 DAY PROGRAM

CDCDP®

(Click here for more information about the CDCDP® program)

## Certified Data Centre Technician Professional

CDCTP®

5 DAY PROGRAM (Click here for more information about the CDCTP® program)

## The Global Digital Infrastructure Education Framework

The Global Digital Infrastructure Education Framework allows data centre and network infrastructure professionals to map education to meet their needs depending on their career goals.

Each program has been designed to address the skills and knowledge requirements of those working in different areas of these vibrant and fast moving sectors. Whilst the programs flow perfectly from one to another they are of equal value as stand alone programs, plus you can enter the framework at any level depending on your level of experience.

www.cnet-training.com | info@cnet-training.com | +44 (0)1284 767100

# Make a fresh start

**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

CHALK HILL MEDIA





It's almost the end of another year and therefore a good time to reflect and look forward to what's ahead. Before I go any further, I'd like to say a big thank you to all our readers and contributors who help make Inside_Networks what it is.

Was this year a good or not so good one? Undoubtedly, that will depend on your role in the industry but with the edge, the Internet of Things, Industry 4.0, the Open Compute Project, the Construction Products Regulation, artificial intelligence, power over Ethernet and ever more intelligent buildings all dominating the headlines, there was plenty going on. That's before we even look at equally important issues such as gender diversity and the great advances that are being made in skills and knowledge development!

To sum up the last 12 months and to look forward to the year ahead, we've asked a panel of experts from different sectors to pick their highlights and suggest what the future has in store. You can read this month's Question Time by **CLICKING HERE.**

Also in this issue, we focus on what are often the unsung heroes of the network infrastructure – cable management and labelling. It should not be taken for granted and in this issue Keith Stewart of Networks Centre takes a look at the difficulties of achieving low leakage whilst being able to cable across barriers, while Brother's Ioana Nitu explains how the latest labelling technology can deliver efficient workflows and long-lasting, highly legible identification. **CLICK HERE** to read Keith's article and for Ioana's **CLICK HERE.**

Although the IT department has become the cornerstone of every successful organisation, Priyanka Roy of ManageEngine examines how relevant will IT personnel be as the very technology they've nurtured begins to take over. It's a fascinating subject and you can read more by **CLICKING HERE.**

With much more besides, I hope you enjoy this issue of Inside_Networks. Don't forget that if you'd like to comment on any of these subjects, or anything else to do with enterprise and data centre network infrastructures, I'd be delighted to hear from you.

All the best for 2019!

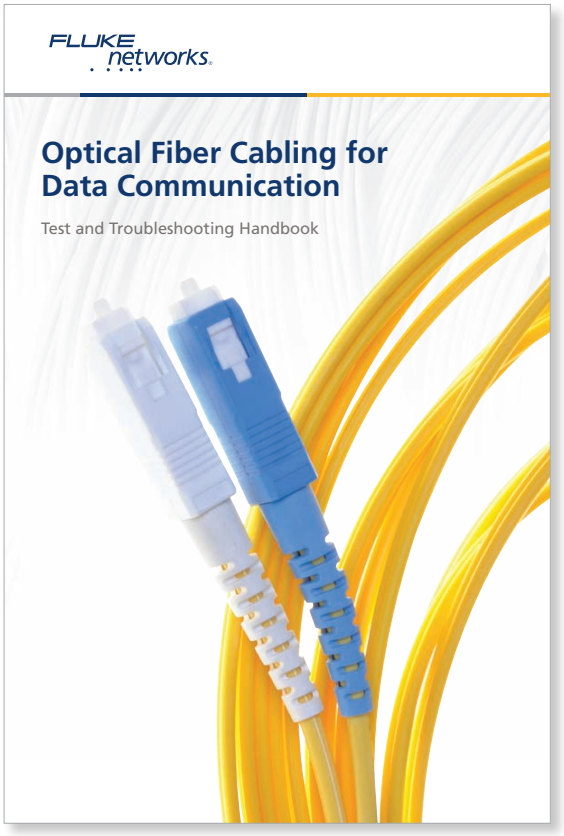
R.Shepherd

**Rob Shepherd** Editor

All our

# OPTICAL FIBER CABLING FOR DATA COMMUNICATIONS

knowledge in one handbook!




Learn the fundamentals and best practices of how to inspect, clean, test, troubleshoot and document fiber cabling infrastructure installations.

**ORDER YOUR**

**FREE**

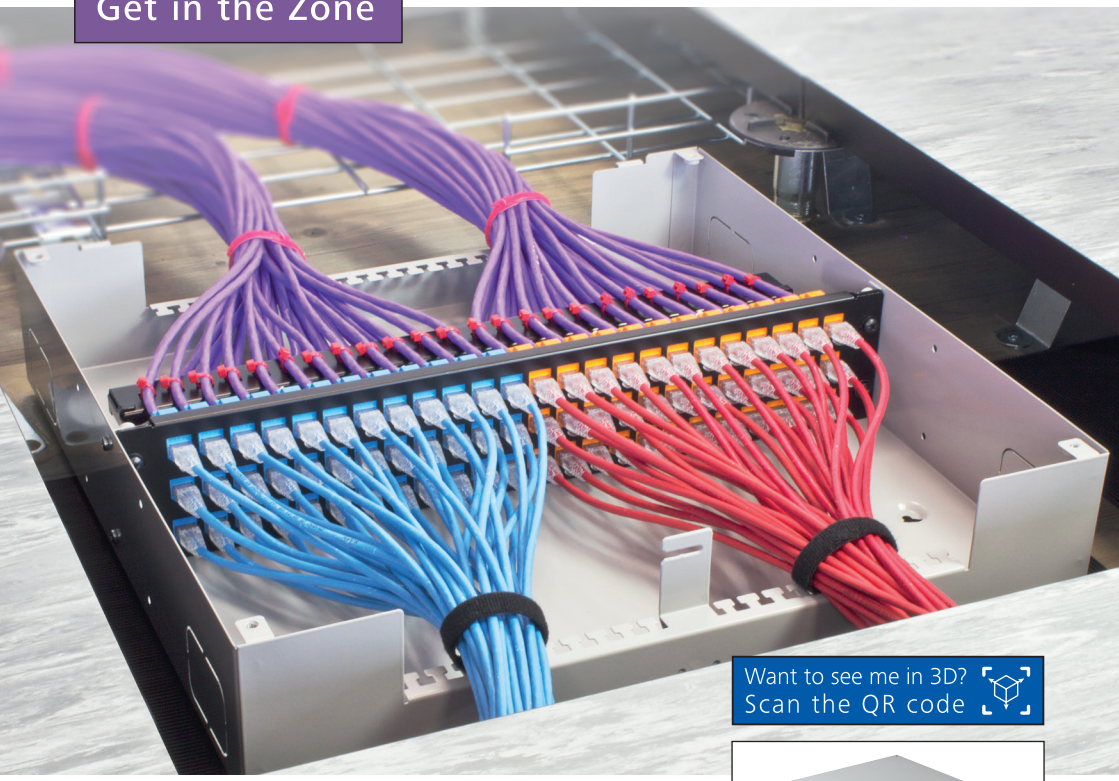
**PRINTED COPY NOW!**

**www.flukenetworks.com/emea-printed-fiber-test-troubleshooting-handbook**

FLUKE networks

HellermannTyton
www.htdata.co.uk

# Get in the Zone



Want to see me in 3D?
Scan the QR code

**The Zone Cabling Enclosure from HellermannTyton delivers a quick and flexible solution for under the floor, in the ceiling or on the wall connectivity in areas where there is limited space or a patching frame is not available.**

The enclosure provides reliable and resilient network connections, as well as high performance in a number of applications where additional patching is required.

### Features and Benefits:

- Maximum capacity: 2U of rack space supporting 19" patch panels
- Supports RapidNet panels, standard HellermannTyton copper and fibre panels and active equipment
- Installs below a single 600mm x 600mm floor or above a ceiling tile
- Provides additional patching away from the rack space
- Hinged and removable lid and removable side covers for easy access and installation of brush panels

For more information on cable management solutions from HellermannTyton

## Visit us online at htdata.co.uk

IN-AD-ZCE-R10

Stay in touch with us!

# Cisco study predicts dramatic change in IT operations as CIOs embrace analytics and automation

Cisco's new IT Operations Readiness Index has revealed how data is transforming the way businesses operate their IT. It surveyed more than 1,500 senior IT leaders from across the globe to understand where organisations are on their IT operations transformation journey.

Joseph Bradley, Cisco's global vice president, IoT, Blockchain, AI and incubation business, said, 'Gone are the days of IT leaders relying on past monthly reports and hours upon hours of manual operational tasks to deliver results in the face of growing infrastructure complexity. Instead, fuelled by data and empowered by automation, IT can operate in real time, be predictive, and rely on detailed data to have a true seat at the table, delivering strategic value for their organisation and for their customers.'

Organisations at higher levels of maturity reported collecting data from more areas of their infrastructure, running more analytics and using automation more extensively. Bradley concluded, 'Through analytics and automation, CIOs can evolve from blindly reacting to events to continuously monitoring and optimising their infrastructures based on predictions of future needs. As a result, they can deliver strategic outcomes for their business partners, with change moving from being surprising and threatening to becoming something to control.'



# Research reveals the data centre growth hotspots in Europe

Research from DataCentrePricing.Com (DCP) has found that the largest data centre city clusters are Frankfurt, London and the inner M25, Paris, Amsterdam and Slough (UK). Five of the 20 European data centre hotspots are located in the UK including Cardiff, Manchester, Woking, Slough and the London and inner M25 area, with three located in Germany including Berlin, Munich and Frankfurt.

A DCP spokesperson said, 'DCP forecasts growth in data centre raised floor space to average almost 50 per cent across all of the 20 city clusters over the next four year period. The highest percentage growth forecast will come from the Rome (60 per cent), Amsterdam and Frankfurt (both on 58 per cent), and Dublin and Geneva (both on 57 per cent) city clusters.'

The largest cities in Europe typically account for the highest amount of third party data centre raised floor space, with data centre providers gaining access to a large population centre as more applications get positioned close to the end user. Average data centre pricing also ranges from €1,392 per month per rack (Zurich) and €1,354 per month per rack (London and the inner M25 area), down to an average of €452 per month per rack (Warsaw) and €530 per month per rack (Prague).

# Cohesity research underscores the challenge posed by mass data fragmentation

Cohesity has published the results of a global survey that validates a critical problem plaguing enterprises around the world – mass data fragmentation. The survey was conduced with over 900 senior IT decision makers from enterprises in the US, UK, France, Germany, Australia, and Japan across a variety of industries including financial services, healthcare, life sciences, media and entertainment, technology and the public sector.


Mass data fragmentation refers to the growing proliferation of data spread across a myriad of different locations, infrastructure silos, and management systems that prevents organisations from fully utilising its value. The survey revealed that secondary data is fragmented across silos and is, or will become, nearly impossible to manage long-term. Respondents cited growing fears around competitive threats, compliance risks, job losses, sinking morale, and missed opportunities to increase revenue by as much as 10 per cent.

'IT leaders globally are wrestling with mass data fragmentation and the snowball effect caused by this critical infrastructure challenge,' said Mohit Aron, CEO and founder of Cohesity. 'Data silos create compute and management silos and it becomes nearly impossible for organisations to solve this constantly growing problem.'



# Equinix announces £295m investment in UK

Equinix will create a new International Business Exchange (IBX) site at its London Slough campus. UK prime minister, Theresa May, welcomed the £90m project, which contributes to a total new investment in the UK's digital infrastructure of £295m.

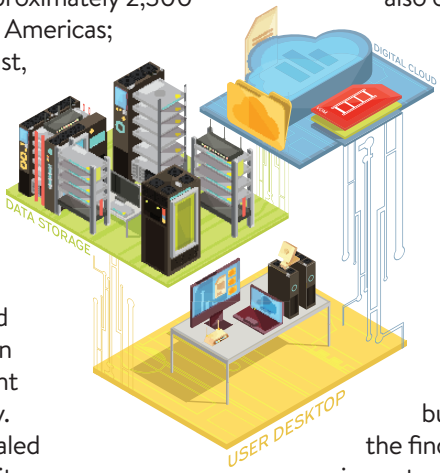

The new flagship data centre, named LD7, is part of a fleet of new and expanded facilities on Equinix's London Slough campus, and is due to open in early 2019. This new infrastructure will bring the company's UK portfolio to 12 IBXs and supports increasing demand for capacity to handle growing volumes of data, including increasing traffic coming out of the City of London.

Russell Poole, managing director UK at Equinix, said, 'Our decision to invest again in the UK's digital infrastructure reflects our confidence that London will remain a leader in the global digital economy, regardless of the outcome of the negotiations over the UK's departure from the European Union. LD7 will be one of the most technologically advanced colocation data centres in the world and will be a major addition to our thriving London Slough campus.'

# Research finds hybrid cloud the ideal IT model

Nutanix has shared the findings of its first annual global Enterprise Cloud Index, which measured enterprise plans for adopting private, hybrid and public clouds. The survey questioned approximately 2,300 respondents from the Americas; Europe, the Middle East, Africa (EMEA); and Asia Pacific and Japan regions.

It found enterprises plan to increase hybrid cloud usage, with 91 per cent stating hybrid cloud as the ideal, even though only 19 per cent have that model today. The findings also revealed that application mobility across any cloud is a top priority, with 88 per cent of respondents saying it would 'solve a lot of my problems'. 23 per cent of respondents claimed the ability to match applications to the right cloud environment is critical, while the ability to move applications back and forth between clouds (16 per cent) also outranked cost (six per cent) and security (five per cent) as primary benefits of the hybrid approach.




Ben Gibson, chief marketing officer for Nutanix, said, 'Hybrid cloud capabilities are the next step in providing the freedom to dynamically provision and manage applications based on business needs. However, the findings of this study reveal an important gap in the market – organisations need IT talent to manage their hybrid cloud models, especially in the next 12 to 24 months.'



# IT departments regaining strategic control but not responsibility for IT budgets

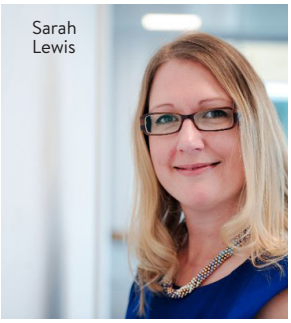
Vanson Bourne's third annual State of Enterprise IT insight programme has found that strategic power has swung back to the IT department – in last year's research 28 per cent said the department was not involved in strategic decisions at all, which has dropped to just 19 per cent this year. As a result, 60 per cent respondents say that the IT department is now driving innovation and new technology adoption, up from 40 per cent who reported this last year.

Additionally, the research shows that the trend for IT spend happening across the organisation continues, as only 34 per cent of respondents say that the IT department is solely responsible for IT spend, down from 40 per cent last year. Departments like marketing, finance, and compliance continue to buy IT products and services, most likely department-specific cloud-based software (44 per cent) and other cloud services (40 per cent).

Neil Thorington, managing director at Vanson Bourne, said, 'There has long been a tension between IT and the wider business, as each sought to promote its interests. Now, IT departments want to help make sure the whole organisation is innovative and exploring new trends but in a way that works for everyone. The relationship is mutually beneficial – IT is becoming a trusted advisor, not the budget holder.'

# Over 60 per cent of women working in technology feel they aren't taken seriously

The Ivanti Women in Tech Survey 2018 surveyed over 500 women working in technology from around the globe about their experiences of the industry. The report identified that many women have to deal with gender disparity in the workplace, including having their suggestions dismissed, being constantly interrupted in meetings and being overlooked for promotion in favour of male counterparts. In addition, 43 per cent said that a key struggle in the industry is a lack of female role models to look up to.


Sarah Lewis

The gender pay gap is also a significant issue for women working in technology. 75 per cent of respondents agreed that the best change that organisations and the wider technology industry could make to encourage more women into technology would be to pay women the same as their male counterparts. Other key findings from the report include:

- Over half of those surveyed have noticed that there are more women working in technology now than there were five years ago.
- 88 per cent of women believe that 'a desire to learn' is the most important skill to have when working in technology.
- 67 per cent feel that 'making a positive impact on their organisation and the wider industry' is the best thing about being a woman in technology.
- One in five would advise females starting a career in technology that it is critical to 'know your worth'.

Sarah Lewis, director of field marketing at Ivanti, said, 'While it is incredible to see that there are so many more women working in the technology industry than ever before, the report highlights what we have been told anecdotally for years – more needs to be done in order to encourage gender diversity in technology.'



## NEWS IN BRIEF

The global market for Internet of Things (IoT) technology reached $130bn in 2018, and is projected to reach $318bn by 2023, at a compound annual growth rate (CAGR) of 20 per cent, according to GlobalData. Solutions for government, utilities and manufacturing dominate the market, with a total of 58 per cent of the opportunity in 2018 and a slighter smaller 55 per cent of the market in 2023, as others such as travel and leisure and retail grow their respective shares.

Colt Data Centre Services (DCS) has announced its entry into India. The organisation has successfully acquired land in Mumbai and plans to build a 100MW hyperscale data centre. The strategic decision to expand into India has been driven by the substantial customer demand it has received for best in class data centre space, as the consumption of cloud services continues to thrive in the country. Cloud revenue in India alone is predicted to be growing at 25 per cent CAGR between 2016-2021.


# Protect your data and stay connected at the edge.

## The rise of IoT has made data access and connectivity vitally important.

Cloud storage can be effective, but has major limitations — including latency, bandwidth, security, and lack of off-line access — that can affect performance. Because of this, edge computing and on-premises infrastructure has become a critical need.

With local edge solutions you can keep your IoT applications powered and running at the speed of digital business.

**That's Certainty in a Connected World**

**Discover what is edge computing and why it matters?**

www.apc.com/edge

Life Is On | APC by Schneider Electric

# Tired of GDPR? You can't afford to be

**Hi Rob**

Those who are self-employed or run a small business have probably lost count of the number of emails they have received about the General Data Protection Regulation (GDPR). However, the email opt-in overload is just the tip of the iceberg, it is the larger and inconspicuous underside of the GDPR iceberg that businesses need to be actively on the lookout for – external threats to the sensitive data they hold on the network.

When it comes to GDPR, strengthening your network to protect data and withstand cyber-attacks must be a priority. You can send out all of the compliance emails you like, update a privacy policy and put a warning on every web page, but if a network is not strong enough to withstand attack or data breach, you will fall foul of the regulations and can face severe penalties.

There isn't a network in the world that is utterly and completely unbreachable, but that's not what GDPR is asking you for anyway. GDPR simply requires that you do all you can do to assure data security. So, alongside updated policies and procedures, you must have a network that you know and can prove is as secure as it can be.

In practice, if you are running a small business that generally means you need a small office/home office (SOHO) network. This is basically a local area network (LAN), configured to cater for both domestic and small business use. In particular, a dedicated SOHO network device and security is likely to include a greater level of security and encryption than most standard domestic routers, particularly older models, along with virtual private network (VPN) provisioning and/or encryption.

This elevated standard of security matters when it comes to GDPR compliance, not least because many small business operators routinely carry out business transactions, such as online banking or accounting, that is vulnerable to human error and leaves them more vulnerable to cyber-attacks than they realise.

Now consider the type of data that you send back and forth across that network, and how often you do so. What would it mean for your business if that connection was exploited maliciously in the manner suffered by the NHS in 2017, when it was hit by a cyber-attack? As businesses become more reliant on technology, the threat is increasing for those who still rely on an outdated or obsolete domestic router to administer their business. That's where GDPR comes in. If you are handling data, even if you do so in a GDPR compliant way, but are using an insecure network, you are very vulnerable.

The more you move that data around or store it remotely, the more vulnerable you become. Because even though your GDPR compliant protocols may mean your data is largely anonymised, and that data no longer required is promptly deleted, nonetheless you will, almost inevitably, have current and sensitive data on your system, even if that's only your clients' names and contact details.

GDPR is not an unreasonable piece of regulation but a much needed protection that benefits us all. While implementation has become mired in confusion, it's not that much of a challenge for small businesses to comply, as long as they remember that their real vulnerability lies not in failing to send out emails, but in failing to protect networks.

**Thornsten Kurpjuhn**
**Zyxel**



**Editor's comment**

A timely reminder from Thornsten that GDPR affects all businesses – not just larger ones. Therefore, it is imperative that networks are kept one step ahead at all times.

# Proof positive

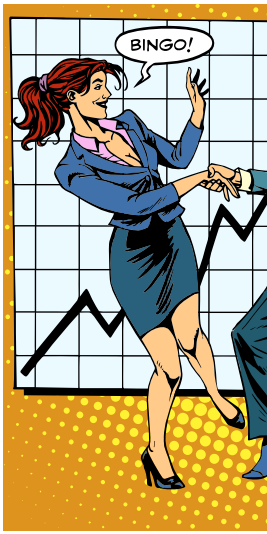
**Hi Rob**

According to research from Growth Enabler, the global Internet of Things (IoT) market is set to increase to $457.29bn by 2020, fuelled in part by the rise of its acceptance, adoption and business applicability. This research is compounded by statistics from Vodafone, which states that the number of IoT adopters across all industries has already more than doubled since 2013, with 29 per cent of businesses across the world showing how strong the business case for IoT really is. However, research from Cisco shows that 60 per cent of IoT initiatives stall at the proof of concept (PoC) stage, with only 26 per cent of businesses considering their IoT initiative to be a complete success.

A PoC is a vital component of any IoT initiative as it provides a basis for businesses to validate the design and implementation of a project, before it is rolled out across the entire business. So what are the primary factors that are aiding and impeding progress for IoT initiatives and what are the elements that businesses should consider to create a successful PoC?

As businesses look to develop their own IoT PoC, they must start with an objective that is sensible, achievable and one that can be resourced effectively. Whilst it may be tempting to dive head first into the multitude of opportunities that IoT can potentially deliver for a company, this could quickly become overwhelming when taking into account the volume of resources, both financial and physical, that are required to execute a PoC, let alone an entire project.

Furthermore, starting a project with the premise that 'it must succeed' can create a heightened sense of expectation, as well as internal stakeholder competition, envy, distrust and other negative elements.




In order to combat this, businesses must gain consensus for the project across all departments, from planning all the way through to analysing the data outcomes. A PoC that is appropriately planned and executed from the start will quickly maximise confidence in the project across the company. And, with buy-in from key stakeholders to support a business wide cultural shift, companies can move away from the potential negative 'silo' effect of any initial PoC.

As well as culture and collaboration, the human impact is also an important consideration when it comes to expertise within a business. It is critical that businesses assess their levels of expertise and consider whether internal personnel are up to the job, or whether experienced external partners are required. According to the research from Cisco, companies with the most successful IoT deployments used ecosystem partnerships most widely,

however, this approach only works if the consortium of providers can be coordinated and work together effectively. A more streamlined approach would be to plan and implement the IoT project with a strategic partner contractor that can coordinate the many disparate technological and operational elements of the project, in order to maximise the outcome.

A common mistake that often occurs within businesses looking to implement an IoT initiative is that many projects focus on the PoC alone, and not what happens thereafter, particularly when the subject turns to funding. However, if IoT is to be the mechanism of positive change, all key stakeholders must buy in from the beginning and also be prepared to fund the expansion phase. In an ideal scenario, strategic projects that are driven by IoT should be signed off at C-Level, bought into by the senior management team and delivered by a dedicated project group that works across all departments within the business.

In order to achieve the highest value from the project and generate tangible data results, businesses must also identify the business challenges and define the goals that they want to achieve from the project. Perhaps the aim of the project is to uncover inefficiencies within the business operations, to identify new revenue streams, or to understand more about how customers are using the business' products. As long as each objective has defined metrics that can be measured accordingly, this can drive the business case as the goals can be measured against meaningful data gathered from the IoT solution deployed. These objectives should also be communicated to key stakeholders in each department to ensure business-wide collaboration and focus towards common goals.

As with any new business undertaking, it's natural that adjustments may need to be made to the IoT project along the way in terms of fine-tuning the technology and processes. By learning from mistakes and issues during the PoC, business can optimise the project outcomes and mitigate against potential disruption. A key element in the POC is tenacity – a business should be prepared to adapt and face any issues that emerge from the POC head on, which will increase the likelihood that the project will succeed.

With such strong potential in IoT technology, businesses could be forgiven for underestimating the full extent of what is required for a successful PoC. However, whilst there may be some resistance to change, with full business-wide collaboration and partnership with experts, the key elements are in place to work towards making the IoT initiative a success.

**Nick Sacke**
**Comms365**

**Editor's comment**

Some salient points here – it's particularly worth remembering that stakeholder engagement and buy-in is a vital element in the success of any project. Nick's comments about the importance of a successful PoC are well worth keeping in mind in order to avoid potentially costly mistakes.

# ENSPACE

## High Density Fibre Solutions


**Discover ENSPACE**

**CPR B2ca Fibre Cables**

**Webinar MTP PRO**

**Webinar LC strikes Back**

Nexans Cabling Solutions UK
2 Faraday Office Park
Faraday Road, Basingstoke RG24 8Q
Tel: 01256 486640 / ncs.uk@nexans.com
www.nexans.co.uk/LANsystems

Nexans
BRINGS ENERGY TO LIFE

# Rate and review

With 2018 coming to a close, it's a good time to review the events of the last 12 months. Inside_Networks has assembled a panel of industry experts to pick their highlights and suggest what we can look forward to in 2019

2018 seems to have been a good year for those in the enterprise and data centre network infrastructure sectors. It's therefore a good opportunity to take stock of what's happened over the last 12 months and turn our attention towards 2019.

When it comes to data centres, 2018 will be remembered for one word – edge. Although centralising facilities made sense a few years ago, the exponential adoption of the cloud, the Internet of Things (IoT) and our predilection for watching streamed content has resulted in a growing number of data centres being built closer to where the users are. Just as importantly, Industry 4.0, the Industrial Internet of Things (IIoT) and machine-to-machine (M2M) communications have also driven data centres to the edge and we can expect to hear much more about this.

The Open Compute Project's (OCP) mission to promote the benefits of open source ecosystems continues to gain support. By questioning the way things have been done in the past, it continues to act as a catalyst for exchanging ideas and developing new compute, storage and networking hardware and software solutions in a cost effective way.

One of the most significant events of the 2017 was the introduction of the Construction Products Regulation (CPR), which was broadly welcomed by the structured cabling community. However, there have been a number of issues with its application that are cause for concern. For instance, although manufacturers are legally required to correctly classify cables, there is no legal requirement for either manufacturers or distributors to insist on their application. 2019 will hopefully see greater clarification on this issue.



**WHAT HAVE BEEN THE MOST SIGNIFICANT EVENTS WITHIN THE ENTERPRISE NETWORK INFRASTRUCTURE AND DATA CENTRE SECTORS OVER THE LAST 12 MONTHS, AND WHAT DO YOU THINK WILL BE THE KEY TALKING POINTS DURING 2019?**

2018 also saw a great deal of discussion around the subject of gender diversity and it's clear that the time for lip-service is over and the enterprise and data centre network infrastructure sectors need to get serious about what it takes to broaden its demographic, if it is to reap the rewards being experienced by other industries.

With all this and more, there's never a dull moment and to discuss the highlights of 2018 and predict the big talking points of 2019, Inside_Networks has assembled a panel of experts to give us their thoughts and opinions.

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

# JOHN LABAN

## RESET CATALYST AT THE OPEN COMPUTE PROJECT (OCP) FOUNDATION

In 2018 two things stand out for me. Firstly, Microsoft purchasing GitHub for $7bn and, secondly, Microsoft open sourcing 60,000 of its patents during October. These will definitely be talked about during 2019 because the significance of these two seismic events will hit like a delayed tsunami after a major earthquake.

China has now started to move into Europe and in the autumn of 2019 many businesses in the data centre industry in Europe will begin to realise what's happening. My recommendation is for people to learn more about Chinese culture, as I predict that during 2019 European businesses will be clambering to do business with these Chinese businesses and just two that come to mind are Inspur and Alibaba.

During October 2018 we saw a vote in favour of the proposals that have emerged under the Eco-Design Directive for server energy efficiency. The idle energy requirements for servers caused a media storm for a month prior to the vote. So watch out for hardware end of life notices through to 2020, when this energy efficiency legislation kicks in.

It probably passed under the radar of many people that during 2018 a whole new business sector was created in the European data centre industry – circular economy hyperscale open compute hardware for enterprise data centres. One French open source hardware business was selling over 1,000 vanity free open source servers per week at the point at which during the summer of 2018 it was purchased buy investors moving in from the USA.

Finally, during 2018 we had lots of talk about edge data centres but few people understood what was happening in this respect with Central Office Re-architected as a Datacenter (openCORD). The IHS Markit report from March forecasts for Europe a five fold increase in open source hardware revenues by 2021 and much of this will be implemented in the infrastructures of the European telecommunications companies.

Lastly, we will need a new word to better explain 'accelerating disruption' and for this I donate a 2018 Christmas present for all Inside_Networks' readers and the data centre industry generally – rumperedis. Google it to find out why it is more suitable than the world disruptive for OCP open source hardware data centres.

'China has now started to move into Europe and in the autumn of 2019 many businesses in the data centre industry in Europe will begin to realise what's happening.'


PATCH APP& GO

# The Smart Network Tester

## The smart and efficient way to test data networking installations.

Patch App & Go T1 is the one man Data Continuity Tester and Cable Tracer, powered by any mobile device running on android or IOS. Download the app to your device and testing of any Lan cable becomes a quick and easy process.

Supplied with 6 Smart Remote Plugs (with the option of buying more) which are individual programmed with numbers from 1 to 6. As you test the Patch App & Go will visually display a pass or fail, as well as confirming the unique ID of the smart Remote plug currently being tested.

## AVAILABLE JANUARY 2019

AERIALS & CABLE EQUIPMENT · MS DISTRIBUTION UK · Bownet Connecting Networks · comms express · COMTEC

NETSHOP · FNDO FUTURE NETWORK Distribution Limited · nimans · BKA solutions · CABLENET

ERF Your electrical wholesaler · SMART AV · eurocables Belfast Industrial, Network And Security Products · test-meter.co.uk · KEDINGTON DIRECT

CMW LIMITED CRAY VALLEY · PATCHSAVE SOLUTIONS THE DATA CENTRE DIFFERENCE

- Test Continunity
- Cable Tracer
- Smart Remote Plugs
- Rechargeable Battery
- Innovative Design
- Wiremap
- One Man Tester
- Numbered Remote Plugs
- PDF Test Reports
- Saves Time & Money

**Register your interest today**

www.patchappgo.com

# Do you understand the implications of BS6701:2016+A1:2017?

*Using CPR compliant cable is a legal requirement. Learn more from our webinars:*

YouTube /ExcelNetworking


- Smoke Classification
- Flaming Droplets Classification
- Acid Gas Testing
- Eca v Dca
- CPR and BS 6701:2016+A1:2017
- IEC 60332-3


## Check out our series of Excel Explains... Webinars:

**www.excel-networking.com/excel-explains-cpr**

www.excel-networking.com

excel without compromise.

# SIMON BRADY
## DATA CENTRE OPTIMISATION PROGRAM MANAGER AT VERTIV

A year in the life of a data centre can be a very long time. Particularly for some sites that have rapid refresh cycles on their servers, but the so-called hyperscalers are a breed apart.


For the most part consolidation has been the name of the game, especially in the enterprise space. Several industry reports show the decline of the enterprise data centre but in 2018 I have personally seen this decline flattening out. Most of the large enterprise operators have already worked out what they will keep in house and what they are happy to push to cloud. Given some of the very public catastrophic IT failures recently maybe more will be kept in house in future.

This, in many cases, has left a lot of sites with large overcapacity and way too much redundancy. Some of these enterprise sites are looking to optimise these new leaner sites buy mothballing or rotating major infrastructure components. Those that have larger sites are looking to sell/rent the excess capacity.

Looking to 2019 the two topics I have discussed the most have been edge deployments and crypto sites. Edge of network sites are nothing new but for sure we are going to see a lot more compute, capacity and reliance on these sites. Our growing thirst for data hungry services and devices will make 2019 the year of the edge for sure.

As for crypto I'm not so sure. The gold rush for massive coin mining data centres seems to still be there but I am starting to see some more mature players looking beyond the get rich quick craze. The development of real world applications beyond crypto currency is gathering pace. Serious Blockchain players are starting to look at hybrid data centre solutions that sit between rack 'em and stack 'em sites and more traditional high availability facilities.

As with anything related to the IT industry by the time you have read this article it will all have changed anyway. What is certain for the data centre space in 2019 and beyond is we will need lots of it. What it will look like and what shape it will be is anyone's guess.

'Several industry reports show the decline of the enterprise data centre but in 2018 I have personally seen this decline flattening out.'

# MARK ACTON
## CRITICAL SERVICES DIRECTOR AT CBRE DATA CENTRE SOLUTIONS

One of the key events during the last 12 months was the release of ISO/IEC TS 22237 Information technology - Data centre facilities and infrastructures by the International Standards Organisation (ISO).

TS 22237 addresses the key elements of data centre infrastructure required in order to achieve increasing levels of availability and is directly based on the EN 50600 series. TS 22237 is set to become the single global benchmark, superseding the currently used non-international standards or data centre categorisation frameworks that are not true standards. This is unlikely to become important during 2019, however, over the next 2-3 years TS 22237 will become an increasing focus and have wider usage.

The other big story of the last 12 months is the increasing consolidation of the colocation data centre market, led by the likes of Digital Realty and Equinix, with other large players following suit. This trend is likely to continue into 2019 and will remain a significant talking point throughout the year.

Additionally, the surge in use of cloud based applications is driving demand for data storage, which is growing at a rapid rate with a consequential rapid increase in network traffic. A recent study by Cisco forecasted global cloud data centre traffic to reach 19.5ZB per year by 2021, up from 6ZB per year in 2016. Globally, Cisco predicts that cloud data centre traffic will represent 95 per cent of total data centre traffic by 2021, compared to 88 per cent in 2016. The activities driving this exponential growth include the Internet of Things (IoT), with the connection of huge numbers of physical devices and the sensors, they contain ever greater volumes of data are being captured and transmitted to data centres.

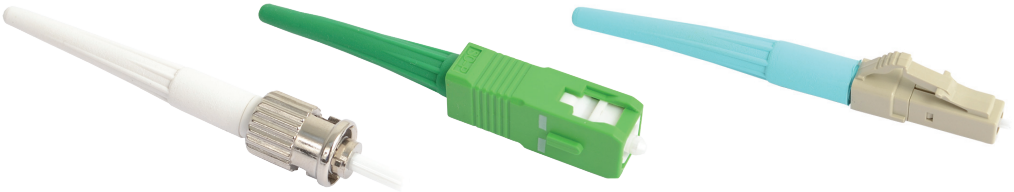
There is also an increasing ability to derive valuable information from what appear on the surface to be unrelated and unstructured data sets. These increasingly powerful analytics, which are capable of deriving extremely valuable data from sources that might previously not have been captured or discarded are also increasing the demands on data storage and network transmission. The data centre will continue to play a vital role in storing and processing increasingly large amounts of data and sustain this development and the new services deriving from it during 2019 and over the next few years.

**'TS 22237 is set to become the single global benchmark, superseding the currently used non-international standards or data centre categorisation frameworks that are not true standards.'**

# 3.0MM (SOC) SPLICE-ON CONNECTOR

**The 3.0mm Splice-On Connector** provides a connection that meets or exceeds industry standards for loss and back reflection. The connector is provided with a factory-cleaved 900um fibre stub to ensure ease of use and optimal performance.

The unique boot allows the entire splice to be concealed and protected. The addition of an extended brass crimp sleeve provides extra protection to the splice and utilises the Kevlar for maximized pull strength.



## SPECIFICATIONS

| | SM/APC | SM/UPC | MM/62.5UM | MM/50UM | MM/OM3 | MM/OM4 |
|---|---|---|---|---|---|---|
| **Insertion Loss (max)** | 0.3dB | | 0.4dB | | | |
| **Optical Returns** | > 65dB | > 55dB | 35dB (typical) | | | |
| **Ferrule Type** | All Zirconia Pre-Polished Ferrules | | | | | |
| **Colour Code** | Green | Blue | Beige | Black | Aqua | Magenta |
| **Operating Temperature** | -40 to +85 degrees C | | | | | |
| **Industry Standards** | RoHS Compliant, Telcordia GR-326-CORE Compliant | | | | | |
| **Connector Types** | LC/PC, LC/APC, SC/APC, SC/PC, ST/PC | | | | | |

## MECHANICAL PERFORMANCE

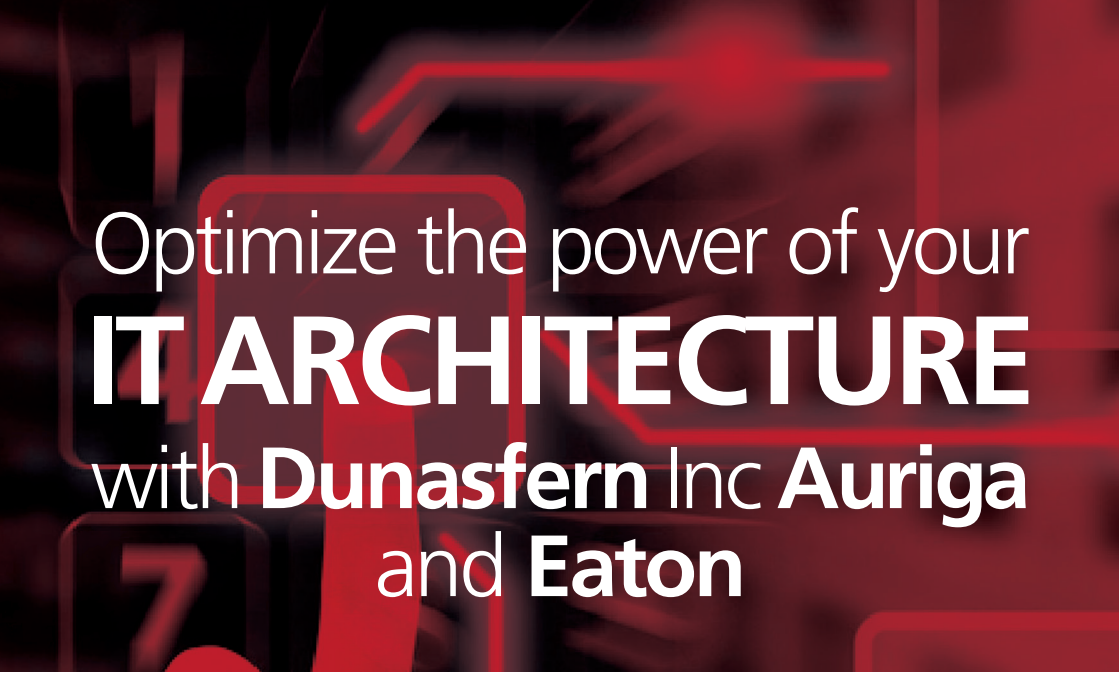
**PULL STRENGTH:**

- 15Lbs/ 5 seconds Straight Pull
- 5Lbs/ 5 seconds 90° Pull

**APPLIED LOAD:**

- 4.4Lbs Straight Pull
- 4.4Lbs 90° Pull

E: ortronics@legrand.co.uk | W: legrand.us/ortronics



# Optimize the power of your IT ARCHITECTURE with Dunasfern Inc Auriga and Eaton

| | |
|---|---|
| 1 **Protect** | valuable IT assets from power issues and ensure business continuity |
| 2 **Distribute** | power distribution to increase efficiency and reduce operating costs |
| 3 **Organise** | critical IT equipment in your rack reliably and efficiently and reduce cooling costs. |
| 4 **Manage** | your power management infrastructure and your IT equipment through a single pane of glass |
| 5 **Maintain** | the infrastructure for reliability and greater peace of mind |

contact our sales team for all of your power needs

**01908 282200 | www.dunasfern.com**

DUNASFERN Inc. AURIGA

EATON
Powering Business Worldwide

# IAN MCKIERNAN

## TECHNICAL PRE-SALES MANAGER AT EXCEL NETWORKING SOLUTIONS

It is difficult to predict what will happen in 2019 in such an unpredictable industry. 2018 has seen so much change already, however, one hint came from some of the commentators in the Dec 18 issue of Inside_Networks.

There was a discussion about the emergence of artificial intelligence (AI) being a driver for Industry 4.0. It made me consider the wider aspect and highlight some of the findings of the recently published IEC whitepaper, Artificial Intelligence Across Industries, which looked at four key areas – smart homes, smart manufacturing, smart transportation and smart energy.

It forecasted that AI will lead to an increased number of connected devices installed worldwide in intelligent networks. The number is expected to grow from over 23 billion in 2018 to approximately 75 billion in 2025, which illustrates the impact of the IoT on data acquisition.

This unprecedented growth in global connectivity and networking is generating massive amounts of data, the rate of which is accelerating. This leads to the issue of connectivity – whilst at the individual device used to collect the data the bandwidth will likely be very low, when we get into the backbone this will build up in line with the increased number of devices.

Passive optical LAN (POL) technology will play an important role in dealing with this industry change. As POL matures in the residential and hospitality sectors, it is also becoming more commonly deployed in multi-dwelling developments. For example, several hotel chains have standardised on a POL network given the plethora of benefits it carries, including a quick return on investment (ROI). POL is also easy to deploy and manage, as there are no active devices in the midspan. Given that POL requires less physical equipment, the need for SERs is reduced, if they are needed at all. Based around singlemode fibre, POL is inherently secure and provides excellent scalability and modularity.

With this in mind, the next stage is for POL to step over into the enterprise space. There are signs that this is being accepted as a plausible technology, with some major corporate organisations seriously considering POL as an alternative to the traditional LAN approach.

‘The next stage is for POL to step over into the enterprise space. There are signs that this is being accepted as a plausible technology, with some major corporate organisations seriously considering POL as an alternative to the traditional LAN approach.’

# MARTIN SMITH
## INTERNATIONAL LEAD NETWORK INFRASTRUCTURE AT CNET TRAINING

The progress and impending approval of the Network Cable Installer Level 3 apprenticeship (ST0485) has been a long awaited and significant event within the sector. It's an industry first and such good news for the sector, with the objectives of providing a funded route into network cabling and to train and educate people properly, whilst encouraging new entrants and providing a career path from school education.

Available to anyone, the apprenticeship recognises network cable installation as a role and takes steps towards standardising technical education by defining a common set of knowledge, skills and behaviour which will, in turn, increase quality of workmanship throughout the sector. It includes on-the-job and off-the-job activities such as mentoring, shadowing, internal training and specialist external education programs.

Most importantly, apprentices undertake rigorous examinations, practical assessments and interviews to pass and gain the qualification but, most essentially, successful completion ensures that each individual is ready for work. With a duration of 12-15 months, those successfully completing the apprenticeship are qualified to confidently install, test and certify complete copper and fibre cable installations in a range of workplace environments.

The added benefit is that the apprenticeship standard is the result of a close collaboration between major companies from the network cabling sector, in addition to branches of the armed forces.

The focus for 2019 is likely to be how to benefit from the apprenticeship, considering the 'use it or lose it' approach for levy payers. However, non-levy payers can explore co-funded routes where the majority is funded. The last budget also reduced the fees to some small to medium sized enterprises.

So, I think companies will be wise to consider their options in order to maximise their benefits from paying the levy or understand how its teams can benefit from the funding available to them. It's certainly something to look into and, for some, will be the start of a shift in mindset to realise the importance of standardised training and education within the sector, and how this will bring with it a higher quality of service and help to put the sector on the map as a career route.

'The progress and impending approval of the Network Cable Installer Level 3 apprenticeship (ST0485) has been a long awaited and significant event within the sector.'


# IT'S IN OUR DNA.

Sudlows has been providing infrastructure and technical services to companies like yours for over 100 years. Call 0800 783 5697 or email hello@sudlows.com to discover more about what we can do for you today, tomorrow and for the next 100 years.

www.sudlows.com

SUDLOWS
working at the core of your business

CRITICAL INFRASTRUCTURES | ENTERPRISE SERVICES | FIBRE SPECIALISTS | ELECTRICAL SERVICES | BUILDING SERVICES | FACILITIES MANAGEMENT

brother
at your side

# Best practice labelling

## Professional Network Infrastructure Label Printer

brother.co.uk/network-infrastructure


When you choose a Brother PT-E550W label printer, you choose the best; with fast printing and wireless connectivity, plus in-built symbols and templates, you're guaranteed to be more productive on-site.

A wide range of durable, laminated tape colours and widths make it perfect for a range of uses including cable identification, patch panels, outlet points and warning signage.

**Order today from your preferred Brother supplier**

COMTEC

Mills
millsltd.com

MGN
Matrix Global Networks

**Integrates with:**

FLUKE networks

LinkWare Live

**Via iLink&Label app:**

brother

# DEAN LIPKE

## VICE PRESIDENT OF PRODUCT MANAGEMENT AT LEVITON NETWORK SOLUTIONS

2018 was a big year for power over Ethernet (PoE), especially with the autumn publication of the IEEE 802.3bt standard. This standard defines PoE over four pairs instead of two, allowing support for more devices that require higher power. This is important for organisations looking to support smart building initiatives by connecting building controls, lighting, wireless access points, and other higher power remote devices to the network. Many of our customers in IT construction planning and design are being asked to design new and productive workspaces with building technology intelligence in mind.

The last 12 months saw strong adoption of 100 Gigabit Ethernet in data centres, and 100Gb/s switch shipments surpassed 40Gb/s shipments. 25Gb/s port shipments also grew, at 359 per cent year-over-year in early 2018, according to IDC's Worldwide Quarterly Ethernet Switch and Router Tracker. The jump is attributed to top of rack updates in dense data centre server access ports.

In 2019 we expect bigger data centres – cloud provider, hyperscale, and large enterprise – to move to 100Gb/s uplinks and 25Gb/s at the server. Also, 400Gb/s Ethernet switches began shipping in 2018, and we will begin to see adoption among more hyperscale data centres in 2019. As the market moves toward these higher speeds, singlemode fibre cabling will see greater adoption. This is a result of decreasing cost and recent standards committee activities that continue to promote singlemode. At the same time, the migration path for enterprise data centres will use multimode cabling while moving to 10Gb/s, 25Gb/s, and 100Gb/s in the future.

In enterprise networks, Wi-Fi will continue to evolve and expand in 2019. IEEE 802.11ax – also known as Wi-Fi 6 – is due for release this year, and will allow for wireless data rates up to 10Gb/s and wider coverage than 802.11ac. We will see 802.11ax show up in all kinds of devices including phones, computers, and tablets. To get expected performance out of current 802.11ac and future 802.11ax, industry standards recommend using Category 6A cables in new installations, which will provide higher data rates and improved PoE performance.

> 'The last 12 months saw strong adoption of 100 Gigabit Ethernet in data centres, and 100Gb/s switch shipments surpassed 40Gb/s shipments.'

# PAUL BIGGERSTAFF
## DESIGN MANAGER AT EXCELREDSTONE

The talking points of 2019 will be driven by the continuing need for more bandwidth in our networks and ensuring our installed cable infrastructures are safe – this means the means the importance of CPR will be ongoing. Standards development and updates will define these rules.

From a structured cabling perspective, Category 6A (Class EA) will continue to take a greater market share over Category 6 (Class E). Customers require a future proof cabling solution providing 10Gb/s capability and high power PoE functionality.

Infrastructures need to cater for intelligent buildings, where everything can be converged onto a common infrastructure. The cabling design needs to be robust to cater for these additional services, with consideration that these services may be remotely powered using Type 3 (60W) and Type 4 (100W) PoE.

Therefore, we will get to a point when there are as many cables in the ceiling as there are in the floor, with high level cabling designs following a grid or zone approach to enable a flexible solution, due to the additional connectivity requirements. Also, when using high power PoE, consideration should be made to the cable media and containment requirements, due to the heat rise in the cables. Cable media is recommended to a Category 6A shielded with a larger conductor size.

Another trend is the use of a modular plug terminated link (MPTL). This is a field terminated plug that enables direct termination into a device and is an efficient way to deliver power, minimise connection points and provide a more secure connection.

With the need for ever increasing bandwidth requirements in optical fibre technology, the implementation of the OM5 standard will continue to grow. OM5 fibre is the next step in producing a higher bandwidth multimode system, capable of providing 400Gb/s speeds. The OM5 solution uses short wave division multiplexing (SWDM) and has the advantage using lower cost optics. More cost effective than singlemode over short links, it also has the advantage of not needing additional cores of fibre to achieve this higher bandwidth capability.

**'Category 6A (Class EA) will continue to take a greater market share over Category 6 (Class E). Customers require a future proof cabling solution providing 10Gb/s capability and high power PoE functionality.'**

# Netscale Solutions

## Delivering the highest fibre density

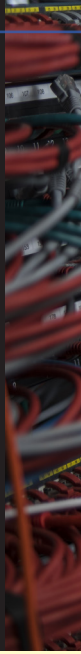
R&M's Netscale solutions combine unmatched fibre cable management with automated connectivity tracking and an innovative tray design to deliver the world's highest port density for 10/40/100G Ethernet.

For more information and further details about the highest 10/40/100GbE density of any fiber solution out there, visit **www.rdm.com**

**Reichle & De-Massari UK Ltd**
+44 (0) 203 693 7595

R&M

# On a need to know basis



Organised and legible cable labelling is indispensable for data centre operators. Brother's Ioana Nitu explains how the latest labelling technology can deliver efficient workflows and long-lasting, highly legible identification



Data centres are highly complex and large facility can contain several million cable connections, any one of which might need to be identified with great urgency in the event of an issue taking place. Making this possible requires an extremely high level of organisation, so accurate recordkeeping and labelling of cables is crucial. In a large facility, this can be an onerous task, and choosing a labelling system that allows an efficient and error free workflow, as well as high levels of legibility for the whole lifespan of labels, can make a big difference.

## SIMPLY DOES IT

Implementing an end to end labelling scheme throughout a data centre significantly speeds up tracing and problem solving processes, as well as repairs. That means it helps avoid downtime – or at least lessen it – saving time and money. But labelling not only simplifies troubleshooting, it also makes the process of carrying out moves, adds and changes easier to manage.

In fact, cable labelling is so important in these applications that several national and international standards exist to ensure a consistent approach, and these are normally built into the contractual obligations of those installing, modifying or maintaining data centres. Failure to meet the relevant obligations can lead to losing the contract and potentially severe financial penalties. This is understandable, given the level of liability that poor labelling practice creates.

## SETTING THE STANDARD

The most commonly specified labelling standards were developed by the American National Standards Institute (ANSI) in partnership with the Telecommunications Industry Association (TIA). The relevant standard for data centres is ANSI/TIA 606-B and it is based on the following principles:

- Labelling must be logical and consistent, across all locations, matching the project drawings




- The labelling scheme must identify the associated physical locations
- Labelling must be easily read, durable, and capable of surviving for the life of the component that was labelled
- The labelling system, and the identifiers used, must be agreed upon by all stakeholders
- Labelling should be pervasive. In other words, it should be placed consistently in all relevant places. This includes cables and connecting hardware, conduits and fire stops, grounding and bonding locations, racks, cabinets, ports, and telecommunications spaces

## FOLLOW THE RULES

These principles translate into a set of practical rules that operators need to follow when it comes to cable labelling.

First, all labels must use a permanent identifier that can be easily traced – in other words, a consistent and logical numbering scheme which is easily understandable by eye, without needing to scan the label digitally. Next, every label needs to match up to the central records and technical drawings. Every cable – and any containing conduits they run though – must be labelled on each end, and each label should identify the termination points of both ends of the cable. Finally, all labels must meet requirements for permeance, legibility, defacement, and adhesion. This is specified in UL 969, the most globally recognised and established certification for label performance.

The British Standards Institution (BSI) has also developed a set of standards governing cable labelling, which may be enforced by some contracts. Labelling for data communications and network infrastructure installations is covered in BS EN 50174-1. The provisions are broadly similar to those of ANSI, requiring labels to be clearly visible and accessible on all relevant components and to remain legible for the lifespan of the caballing, being robust enough to withstand temperature changes and dampness. The standard also

'With so many critical systems depending on digital infrastructure, cable labelling is a discipline that is indispensable to data centre operations, and the stakes are high if it is not done correctly.'

specifies that, if any changes are made, labels must be inspected to determine if any update to the labelling scheme is needed.

## EFFICIENT WORKFLOW

The need to produce thousands of labels for even a relatively small network installation – and potentially hundreds of thousands or even millions for larger projects – means efficiency in the workflow is a key concern. Even a difference of a second or two in the process, when multiplied up by this number of applications, will add a significant amount of a time. Let's say 100,000 labels are needed – an extra two seconds per application means an extra 55.5 hours for the job.

When it comes to efficiency, it is not just the speed at which a printer outputs labels that you need to think about, but the whole workflow that allows the required information to be pulled from the database or technical drawing and on to the label. Less smart systems can require labels to be printed in advance by the technician before being carried to the right position and put in place – a potentially onerous task. Significant efficiencies can be achieved by in-situ printing using a portable device.

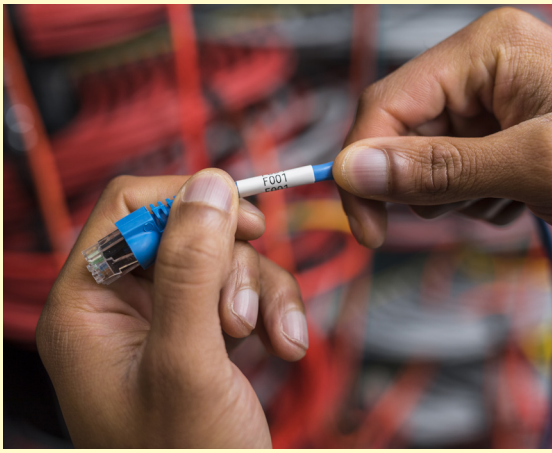
## TOOLS OF THE TRADE

When it comes to choosing a printer, it is advantageous to select a unit that can print labels for cables, patch panels and other surfaces direct from commonly used cloud-based cable ID software platforms. Further efficiencies can be driven, as this can be done in-situ using a smartphone.

A bespoke app designed to work alongside the specific printer can further streamline the workflow, allowing users to quickly design and print labels there and then. The app will offer templates to create compliant labels for cables, patch panels, conduits and more. This will allow a robust, error free workflow that cuts the time required to print and apply each label to the bare minimum.

## LONGLASTING LEGIBILITY

When choosing a label medium, it's important to make sure the labels produced will remain clearly legible for the duration of the application. This means being able to stand up to significant variation in temperature, as well as the possibility of abrasion, potentially from rubbing against



the other cables in a bundle or other surfaces.

For this reason, the makeup of the labels being used by the printer is critical. Multi-layer labels that include additional layers to lend strength and lamination to the label will deliver the best result. Look for a label medium that has been extensively tested against the effects of temperature, chemicals, sunlight and physical contact. This is the only way to be confident that they will meet or exceed the required longevity standards of UL 969.

Mediums that use thermal ink transfer lead the way in terms of usability and longevity, and a well designed multi-layer system, will deliver a label that is virtually indestructible and can withstand even the harshest conditions.

## PROTECT AND SURVIVE

Much of the protection that keeps labels legible for so long comes from lamination, which prevents direct contact between the printed medium and the surrounding environment, and a pre-laminated label medium offers significant benefits in terms of time saving and guaranteed protection.

Some non-pre-laminated labels come with a laminating strip attached, but this needs to be manually applied to each and every label as it is put in place. Not only does this introduce another step, significantly reducing the efficiency of the overall process, but it also opens the possibility of forgetting to apply the lamination, leaving the label less protected than it should be.

An alternative approach is heatshrink tubing, an equally effective way to provide robust and long lasting identification. Once printed, the tube is fed over the cable before being exposed to heat until it shrinks down to form a tight grip.

## CRITICAL THEORY

With so many critical systems depending on digital infrastructure, cable labelling is a discipline that is indispensable to data centre operations, and the stakes are high if it is not done correctly. Thankfully, innovations in mobile printing and label technology mean that very high standards of labelling can now be achieved with a high degree of efficiency, but it is essential to use the right tools for the job. ■

**IOANA NITU**

Ioana Nitu is a product and solutions manager at Brother UK, specialising in labelling and label printers. She works with end customers and supply chain partners across a wide range of sectors. Her focus is on network and electrical systems, helping end users to be more organised and efficient, reducing the element of chaos that can be so harmful to productivity.

# Excel Networking Solutions


Excel is a world-class premium performance end-to-end infrastructure solution, which is designed, manufactured, supported and delivered – without compromise.

Excel's Specialist Support Services include a comprehensive range of laser engraved labels for patch panels and outlets, ensuring that every application is professionally labelled from the moment it is installed.

Excel's Specialist Support Services include the labelling of cabinets, patch panels, GOPs and outlet modules, amongst other pre-terminated solutions. Excel can provide the highest quality laminated, laser engraved labels printed to your specific requirements and shipped the same day, or they can provide the labels pre-printed and installed on to the required products in your order for complete convenience.

By eliminating the need to think about labelling during installation, or fiddle around with a pen and narrow slips of paper on-site, the Excel adhesive engraved labelling solution is proven to save a considerable amount of project time, reducing overall cost.

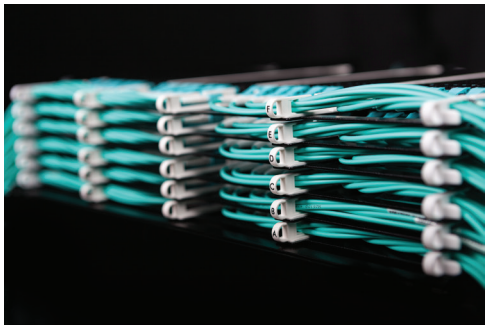
For further information **CLICK HERE.**
**www.excel-networking.com**



# Nexans

Nexans offers a new range of fibre ENSPACE patch panels and cables to bring ultra-high density into the modern data centre.

Choose between a 1U, 2U or 4U model and equip it with up to 144 LC or 72 MTP connections in a single height unit. Each panel has three individual sliding trays per U and each can hold up to four modules of 12 LC or six MTP. All trays can be pulled forward to make installing and disconnecting of cords easy, while port identification is visible even when the panel sits high in a rack due to a 180° foldable front panel.



Add ENSPACE cables and obtain 50 per cent space saving in 1U thanks to their smaller diameter and bend radius compared to other solutions. ENSPACE offers scalability from 10Gb/s, 40Gb/s, 100Gb/s and beyond, as new cabling can be added afterwards when needed.

Discover the complete ENSPACE solution by **CLICKING HERE.**
**www.nexans.co.uk/LANsystems**

## EDP Europe


Hubbell iFRAME, distributed in the UK by EDP Europe, is an advanced network hardware management system that saves valuable floor space, provides 10 per cent more rack space, offers better cable management and has fewer parts to make installation easier and quicker.

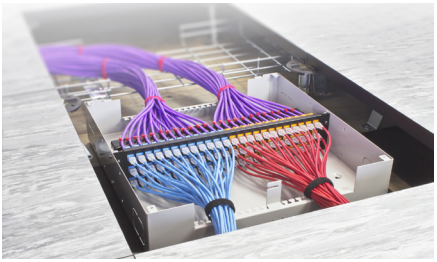
The cornerstone of the iFRAME system is the iFRAME column. It is a super strong 2.13m high I-beam that bolts vertically to the floor every 610mm, while networking equipment mounts between the columns, and the cabling is fed and managed within the columns. Covers over the columns then conceal the cable to provide a more aesthetically pleasing appearance.

The design produces a rigid solution, with no need to secure the top of each rack to the wall or leave the top of the rack unused, as with traditional systems. A host of accessories means your cables will be managed better than ever.

**CLICK HERE** to find out more, call our sales team on 01376 501337 or **CLICK HERE** to send us an email.
**www.edpeurope.com**

# HellermannTyton

The Zone Cabling Enclosure from HellermannTyton provides up to 2U of patching space within the 600x600mm area of a floor or ceiling tile. It offers support for standard 19-inch patch panels and active equipment, as well as RapidNet panels for use with the pre-terminated cassette based solution.



The Zone Cabling Enclosure has a hinged and removable top access door along with removable covers and interchangeable brushes on two sides. It can be secured to raised floor pillars, raised floor pedestal brackets, concrete flooring, ceiling tiles or even walls – making it extremely versatile in any mounted position. Internally, the Zone Cabling Enclosure has front and rear cable management to support patch leads and manage bend radii.

The enclosure is the ideal solution for data centre or office applications where raised floors or suspended ceilings provide suitable hosting space. The enclosure provides reliable, resilient network connections, as well as high performance in a number of applications where additional patching space is required.

To find out more **CLICK HERE.**
**www.htdata.co.uk**

# Blue Helix

The fast identification of cables, wires and components optimises speed and recovery during incidents. Available from Blue Helix, Brady portable printers help create labels and wire markers faster and more efficiently.


Lightweight and easy to use with industrial strength durability, Brady offers easy to apply solutions, with maximum durability and readability for all identification challenges, so you can get applications back online fast.

Equipped with SmartCell Technology, which allows the printer to recognise the loaded material and automatically format a label, there is no guesswork, no mistakes and no wastage.

Connect your data using the Brady Workstation Mobile Text Labels app with the integrated LinkWare Live Solution from Fluke Networks and print your labels using the BMP51 or BMP61 portable label printer.

Contact Blue Helix today and we'll help you select the printer that best suits your needs.

- Blue Helix Project Sales - David Passey, Ben May, Luke Higham, Ben Rautenbach: 01293 586213
- Blue Helix Regional Sales - Andy Parr, Warren Davies, Bobby Davitt, Chris Grant, James Bundock: 01293 586210

**CLICK HERE** to find out more, or to send an email **CLICK HERE.**

**www.bluehelix.co.uk**

# Mind the gap

Keith Stewart of Networks Centre takes a look at the difficulties of achieving low leakage whilst being able to cable across barriers, and the solutions that have been developed to reduce energy wastage

There was a time in the world of data cabling when cable management only referred to routing on cable trays with plastic cable ties or in wall trunking. Managing cables within or between racks only gained attention when cabling became structured with centralised communications rooms and, as a result, higher cable densities needed to be managed.



## HERE AND NOW

Nowadays, there is a plethora of products designed to manage cables both inter and intra cabinet, as well as at the desk, underfloor, overhead and everything in-between. From the humble Velcro cable tie to elaborate re-enterable systems that are designed to route optical fibre overhead throughout data centres, the customer has many choices. However, the design of structured cabling systems needs to carefully consider the suitability of cable management, the length of the pathway and capacity for future expansion.

One aspect to cable management that has become increasingly relevant in recent years is the ability for some hybrid products to prevent the mixing of hot and cold air on either side of a pass through. As data centres have grown in size, increased power and energy costs have meant that the maintenance of barriers is more important than ever.

## BARRIERS TO ENTRY

Most installers that work in a data centre environment are well versed in the requirement to provide cable management that permits cables to pass from within a cabinet to a cable pathway outside. This can be above, below or to the adjacent cabinet. Within the data centre environment it is often critical to prevent mixing of hot and cold air to maximise efficiency and enhance Power Usage Effectiveness (PUE). Within a hot aisle or cold aisle this is essential to close any gaps at the point of transition though a barrier, such as a floor tile or the roof of a cabinet. However, this isn't the only reason to seal gaps at the transition.

> 'As data centres have grown in size, increased power and energy costs have meant that the maintenance of barriers is more important than ever.'

At the simplest level cable glands, also known as stuffing glands, form an effective seal at the transition as well as anchoring the cable. This solution is not practical for large bundles of cables though, and they tend to be used predominantly at panel

level for individual cables, as opposed to cabinet level.

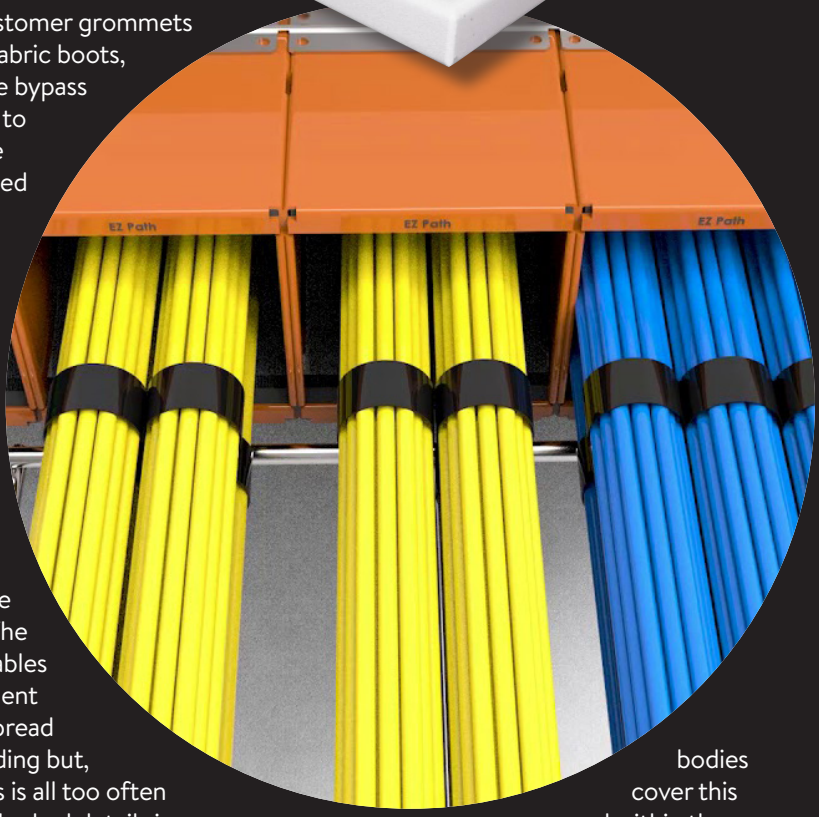
## BRUSH UP

The most common way to seal the gap in a transition point in a cabinet is using brush strip. Brush strips have been around for decades and provide an excellent barrier to airflow, whilst ensuring that future addition of cables or movement can be accommodated.

Brush strips come in many shapes and sizes and are commonly used in the roof of a cabinet, or within products, to modify a floor tile and permit cables to transition to the void beneath a suspended floor. There are broadly two main types of product and each has its advantages. One type is typically a large grommet supplied in two halves, each utilising a brush arrangement, which is fitted within an existing floor tile. The tile is removed and an opening cut into the tile to accept the grommet. The advantage is that by using the existing tile, it will be an accurate fit and uniform finish to adjacent tiles and the size of the grommet is also maximised. The other type is a tile replacement – they avoid the time consuming job of cutting a tile, sealing the cut edges and the associated dust that is generated.


Most floor standing data cabinets come with a removable roof panel, or have

brush strip grommets fitted into the top of the cabinet to facilitate the installation of cables to pass to and from the cabinet. Brush strips offer a practical method of minimising air leakage and cable entry but are a porous barrier. Other materials have been introduced to reduce bypass leakage – these include thermoplastic elastomer grommets and vinyl coated fabric boots, which both reduce bypass airflow compared to brush strip. All the products mentioned are fire retardant, which should be an important requirement of project specification.




## FIRE ALARM

Another situation where cables transition through a barrier is where they leave or enter a room. The fire stopping of cables is a legal requirement to minimise fire spread throughout a building but, unfortunately, this is all too often one of those overlooked details in specifications that fall between trades.

It is essential that all network infrastructure installers are familiar with the requirements and methods to fire stop cables. If it isn't included in the specification the installer should alert the construction manager and ensure that it has been allocated. BICSI and other training bodies cover this and within the BICSI Telecommunications Distribution Methods Manual (TDMM) 118 pages are dedicated to fire stop systems. It covers the different types of fire stop systems

available, which are broadly separated into mechanical and non-mechanical.

## HORSES FOR COURSES

Non-mechanical methods cover a variety of materials that can seal the gaps around cables where they pass through a barrier including caulks and sealants, foams, cementitious materials, intumescent foams and pillows, and non-hardening putties. There will be different scenarios and products to suit each situation.

Mechanical fire stopping devices are pre-manufactured before shipping to site. They have become popular as they provide some advantages in that they can be modular – allowing scope for reconfiguration of cables and factory testing gives a greater assurance of performance. The BICSI TDMM covers several types including elastomeric modules, where penetrating cables are sealed individually under pressure. This type of fire stop is likely to be used in industrial environments, where cables or pipes pass thorough a bulkhead and need to be sealed against other elements such as oil and water.

Fire rated pathway devices have become the most widely used within commercial buildings. These devices can be ganged together and provide effective fire and smoke sealing. Some contain a factory fitted intumescent lining, which reacts to either flame or heat by expanding in size and closing the pathway to flame or fumes. The design of the fire stop should allow sufficient capacity for future addition or removal of redundant cables.

## PLAN OF ACTION

Routing cables along existing cable pathways requires careful planning and coordination with other trades to avoid pinch points where cables pass through a barrier. There are plenty of products on the market to ensure that future moves and changes can be made without compromising building safety or increasing energy usage. ■



**KEITH STEWART**

Keith Stewart is product marketing manager at Networks Centre. He has worked in network cabling and telecoms for over 20 years in various roles within manufacturing, distribution and project management. Stewart is also qualified to HNC in electronics and telecommunications.

# Mayflex expands its distribution centre

Mayflex will be expanding its Midlands Distribution Centre with the opening of a brand new, state-of-the-art warehouse, assembly and office facility located close to the Mayflex head office.

The new facility will go live in April 2019 and provide 64,500ft² of warehousing, including 4,000ft² of additional office, training and demonstration space. The expansion coincides with a considerable investment being made into a new warehouse management system that will provide a seamless solution to manage the stock held across the various Mayflex locations.

Andy Cooper, chief operations officer at Mayflex, commented, 'This multimillion pound investment within our warehouse will ensure that we have the capability to scale to 2030 and beyond based on our growth projections for the business. We will eventually move the Environ build and training facility from the existing Environ House to this larger facility, which will also provide far greater storage capacity and further office space to house our ever-growing workforce.'



# Comtec Group acquires Cablelines Pronet

Comtec Group has completed the acquisition of Cablelines Pronet, the branded structured cabling division of A&GP Trading, for an undisclosed amount.


The acquisition allows Comtec Group to demonstrate its continued commitment to the market and the efficiencies it will create by joining the two enterprises together will help maintain its continued investment in service quality. The Cablelines Pronet business will be integrated into Comtec Group's existing model through a carefully planned process aimed at ensuring consent and participation from all parties.

John Archer, Comtec Group's executive chairman, said, 'I would like to thank A&GP for the way they conducted this exercise and in particular express mine and Dan Conway's deep admiration of Peter Pearson, who built this enterprise and felt that Comtec would be a good home for it.'

# Vertiv and Atman create the first IT infrastructure testing lab in the Central and Eastern Europe region

Vertiv has announced the opening of a new testing laboratory for IT infrastructure colocated in a data centre – the first such facility in Poland and the only one in the Central and Eastern Europe region.

The laboratory will serve in research and development projects and performance tests of power systems with variable loads, as well as tests of the information and communication technologies equipment functioning in changing data centre environmental parameters, such as air humidity and temperature. The laboratory, fully equipped by Vertiv, will be available to clients in the CEE region on the Atman data centre campus in Warsaw.

Testing various scenarios of IT infrastructure operation conducted in the laboratory aims to support clients in finding cost-optimal solutions in the era of changes on the electricity market. This is extremely important because over the last decade energy prices in the European Union have risen by nearly 30 per cent according to Eurostat. Experts predict that wholesale electricity prices will continue to grow in the upcoming years.

'A lot of variables affect the energy consumption in data centres and can't be tested without risking the interruption of access to data. By creating a test environment on the data centre campus, we will be able to safely examine different settings of individual parameters and their impact on energy efficiency and provide feedback to our clients. The laboratory is open for our customers to conduct independent infrastructure tests,' said Bartłomiej Raab, Vertiv country manager for the region of Poland and Baltics.



## CHANNEL UPDATE IN BRIEF

Spicule has partnered with Migsolv to launch a private cloud service, which not only dramatically reduces costs but ensures a safe and seamless migration of significant data out of the public cloud.

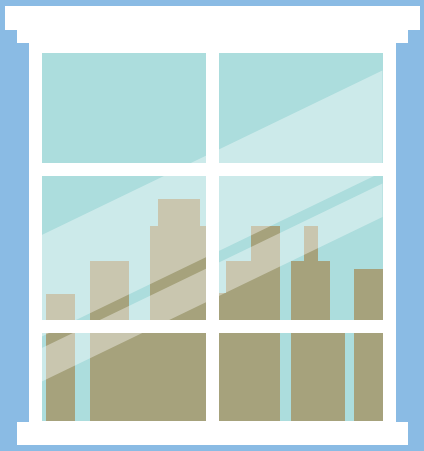
Nimans has added Sangoma to its expanding network infrastructure portfolio to offer resellers a powerful new 'gateway' into the latest integrated connectivity solutions – blending analogue and digital communications with the latest SIP platforms.

Huber+Suhner has joined the Next Generation Mobile Networks (NGMN) Alliance.

Rémi Thomas has joined Extreme Networks as its new chief financial officer.

# Quick clicks

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

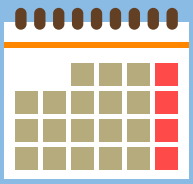


How to Optimise Your Data Centre's Uptime and How Your UPS Can Contribute is a white paper from **Uninterruptible Power Supplies Ltd (UPSL).**
**CLICK HERE** to obtain a copy.



When it comes to a cabling infrastructure, not all media and applications are the same. In his blog titled Mixed Mindfulness, Mark Mullins of **Fluke Networks** explains why.
**CLICK HERE** to read it.

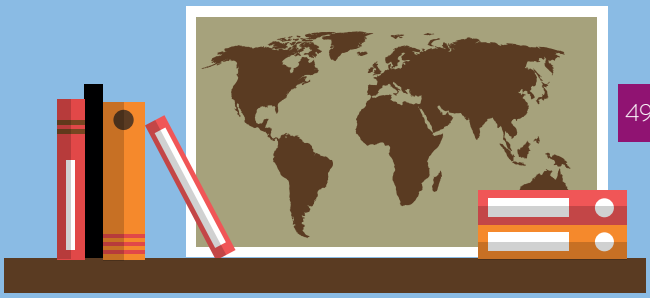
The Essential Role of Colocation Data Centres For IoT and Big Data is a blog from **Telehouse.**
**CLICK HERE** to read it.



**FOR A FREE SUBSCRIPTION TO Inside_Networks CLICK HERE**

What Type of Cabling Do I Need for the Latest 802.11 Wi-Fi? is the question posed in a blog from **Siemon.** **CLICK HERE** to find the answer.

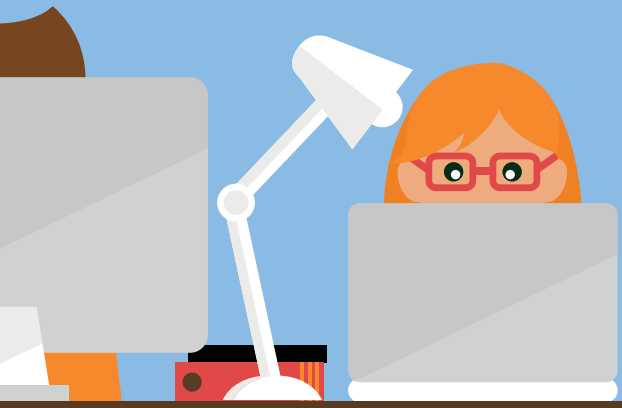
What Is Data Centre Relocation? is a blog from **Infiniti.** **CLICK HERE** to read it.





Data Loss and Downtime are putting Hybrid and Edge Computing Strategies at Risk is a report from **Volta Data Centres.** **CLICK HERE** to obtain a copy.

An Energy Efficient Data Centre Using the EN 50600 is a white paper authored by Niek van der Pas of Minkels. **CLICK HERE** to request a copy.



# A sense of attachment

Michael Akinla of Panduit examines developments in copper cable and fibre optic cable connectivity, and how they now provide simplified data paths from connected Internet of Things (IoT) based power over Ethernet (PoE) sensors to high performance server cabinets

Cabling systems continue to be increasingly important to the growth of the digital environment. Not only high performance, high bandwidth fibre optic cabling, but also copper systems, must contribute to the optimised operation of the data centre and enterprise environments. Simplifying connectivity between connector and cable systems provides the basis for improved installation times, reduces overcrowding within the cabinets and, in some applications, reduces the requirement for patch cords in the cable run.



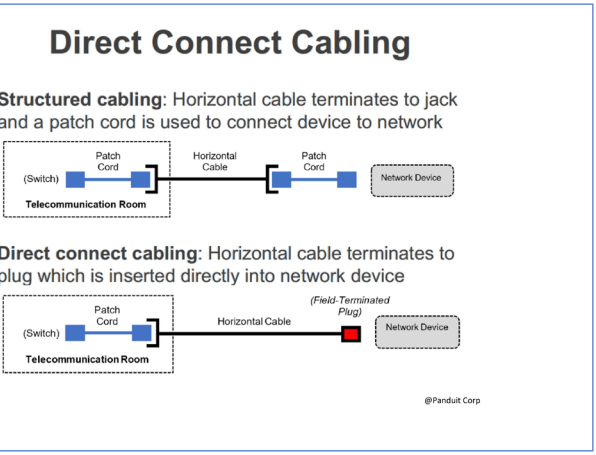
## BENEFIT CHECK

The benefits of the latest developments in physical infrastructure connector systems is advantageous to the installer and the site operator/owner in terms of simplified products, faster installation times, superior termination, reduced inventory requirements for initial installation and maintenance.

Communication and endpoint IoT technologies – the device layer – are rapidly evolving. Endpoint connections of IoT will grow at a 32.9 per cent CAGR up to 2020, reaching an installed base of 20.4 billion units, according to Garter. This rate of change is driving the need to support new and disruptive IoT with connectivity devices that offer higher capabilities across the range of standards and protocols used in electrical and communications infrastructure within organisations.

‘Endpoint connections of IoT will grow at a 32.9 per cent CAGR up to 2020, reaching an installed base of 20.4 billion units, according to Garter. This rate of change is driving the need to support new and disruptive IoT with connectivity devices.’

The speed of change is increasing, and systems designers, integrators and installers product choices are multiplying. It is therefore essential that the more we understand these technology disruptions the better we are able to help minimise the complexity involved in selecting, deploying, managing and connecting from IoT endpoints to the server cabinet.




## WORLD VIEW

A number of global cable and connector companies have new termination devices either in development or recently announced. One system is the UTP field termination plug, which offers simplified field terminations for direct connect cabling applications.

Designed for connecting networked devices such as wireless access points, LED lighting, IP cameras and motion sensors, building access modules, and display panels, the field termination plug makes a claim to be the simplest termination device in the field today. Engineers undertook a complete redesign of the plug and its connection technology to create the small footprint which allows it to easily fit into constricted port spaces or high-density port configurations utilising today's most common UTP cables, including emerging power optimised 22AWG cabling.

It supports Category 6A, Category 6 and Category 5e performance levels in one product, allowing installers to reduce the parts they need to carry to each project and building maintenance also can reduce the termination plugs required in stock. The ability to eliminate patch cords in the direct connect cable system means a reduction in clutter at the ceiling.

## LIGHT WORK

Single fibre splice-on connectors have enabled rapid deployment of high performance field terminations for today's enterprise and data centre fibre applications. The increase in high performance fibre cabling infrastructure has brought about the wider availability and reduced cost of fusion splice machines. This increases the importance to consider the capabilities of the machine when considering this solution for the task in hand.

Field termination allows for deployment of custom fibre links without the added time and planning typically required for pre-terminated assemblies. Using the real time splice loss calculations of typical fusion splice machines, it can deliver confidence in component performance. Splice-on connectors offer advantages in initial installation of fibre links; moves, adds and changes; or repairs to existing links to minimise downtime.

Moreover, splice-on connectors enable technicians to create custom fibre links with minimal effort and no risk of cable shortages or excessive cable to be managed. Fusion splice-on connectors also allow for higher performance links through lower insertion loss and higher return loss characteristics. Furthermore, they require less space by utilising integral splice management, eliminating the need for additional components, as well as reducing the amount of fibre needing in cabinet management, which is typical of pigtail splicing.

## TOP TIPS

When terminating either a pigtail assembly or splice-on connector make sure that:

- A specified length of the buffer is stripped back
- The fibre is cleaned and cleaved to a specific length
- It is fusion spliced directly on to the cable using a splice machine

With a pigtail, the following additional steps must be taken:

- A splice protection sleeve must be heat-shrunk over the splice point to provide stability and protection to the bare fibre section
- This splice protection sleeve is then inserted into a splice tray to secure it in place
- These splice trays are housed inside a fibre enclosure, and then stacked atop each other for higher fibre counts

A key difference between a splice-on connector and a pigtail assembly is that the splice-on connector has a few millimetres of bare glass that is enclosed within the connector assembly, whereas the pigtail assembly has approximately 1m length of tight buffered cable.

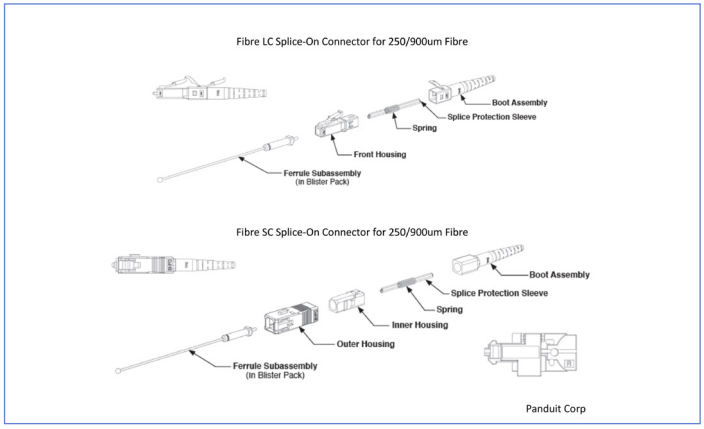
## SPLICE OF LIFE

Splice-on connectors allow field termination of a wide range of the most widely used fibre systems including LC, LC-APC, SC, and SC-APC connectors on to typical 250um or 900um tight-buffered fibre cable.

This is achieved without the need for significant pre-engineering work, which is normally required for pre-terminated assemblies.

Additionally, fusion splice connectors avoid installation limitations placed on mechanical splice connectors with index-matching gel, which allows a broader range of termination possibilities.

These connectors utilise a fusion splice machine for superior performance on both insertion loss and optical return loss, while also requiring less equipment to manage and protect the splice point. Terminations can be done in less than two minutes and are supported with calculated attenuation values at the



time of the splice to ensure performance of the link meets project requirements.

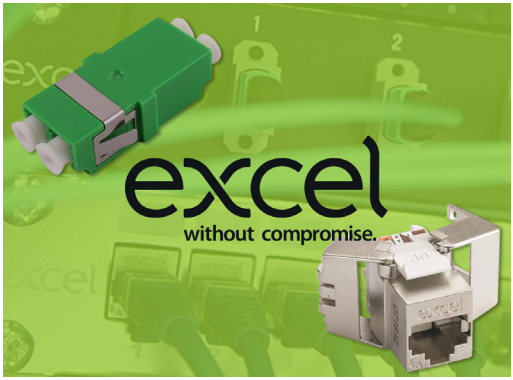
## NEED FOR SPEED

The requirement for speedy and high capability in-field cabling connectors is constantly evolving and a key consideration is to understand the environment and application the cable system is supporting. Ensure that the connectors are designed for the application and cable, as errors can not only require device replacement, but could create wider infrastructure, systems or data traffic problems, which could cause increase latency and data corruption. The growth of data centres, the increasing density within the rack space and the astronomical numbers of IoT devices requiring connectivity mean that connectivity systems will continue to develop to support this essential area of the digital environment. ■

**MICHAEL AKINLA**

Michael Akinla is senior manager technical systems engineering at Panduit EMEA and has been with the company for 18 years, working in a range of roles that have kept him close to technology and the customer. By focusing on data centre physical infrastructure, Akinla identifies ways to save space, provide security and access control and manage the massive data and energy demands.

## Excel Networking Solutions




Excel is a world-class premium performance end-to-end infrastructure solution, which is designed, manufactured, supported and delivered – without compromise.

Providing choice and flexibility is key to the Excel range, the copper solution has numerous options for connectivity in Category $6_A$, Category 6 and Category 5e with both screened and unscreened keystone jacks, low profile toolless jacks, angled butterfly jacks, screened through couplers and a range of residential audiovisual keystone adaptors. All these fit into a wide choice of patch panels and empty frames in 0.5U, 1U and 2U heights.

The Excel Enbeam fibre optic solution provides a choice of ST, SC, LC, FC, MTP and SC/APC connectors and ST, SC, LC and FC adaptors that form part of the Enbeam solution of panels, cables and patch cords.

The Excel ExpressNet solution enables both copper and fibre modules to be presented into either a 1U four module or eight module panel.

For further information **CLICK HERE.**
**www.excel-networking.com**



## R&M

At the 44th ECOC, R&M presented a study on innovative parallel optical connectors called QXB. These can be planned with 12, 24 and 32 parallel fibres and should make infrastructure and SAN management in hyperscale and large corporate data centres considerably easier.

The high purity fused silica lenses have an anti-reflection coating. No physical contact is required between optical fibre ends and cleaning contact surfaces is unnecessary. QXB connectors are inserted into the adaptor without force, regardless of the number of fibres. MPO connectors must always be completely removed if an individual fibre has to be cleaned or tested. This is not the case with QXB.

With QXB, measured values of a connection remain stable once installed and tested. Recurring costs such as cleaning, inspection and measurement do not even exist. Visual inspections and searching for transmission errors are a thing of the past.

To discover more **CLICK HERE.**
**www.rdm.com**

## Siemon

Siemon's end-to-end TERA Category 8.2 copper cabling system delivers transmission performance up to 2GHz to support emerging high speed 25Gb/s and 40Gb/s (25/40GBASE-T) applications in data centre switch to server applications.

Siemon's TERA Category 8.2 system includes cable, patch cords, connectors and pre-terminated cable assemblies. The system is founded on Siemon's TERA connector, which was originally chosen as the ISO/IEC 11801 interface for Category 7A/Class FA and that also now meets Category 8.2 compliance.

Combining the TERA connector with Category 8.2 S/FTP 2000MHz cable and patch cords delivers a complete end-to-end system that exceeds ISO/IEC Category 8.2/Class II specifications for two connector, 30m Class II channels in the data centre. These channels, and the emerging 25G/40GBASE-T applications that they support, are specifically targeted for deployment at the data centre edge where server to switch connections are made.

Siemon's TERA Category 8.2 system can be easily certified using new TERA adaptors released by Fluke Networks for its Versiv DSX-8000 CableAnalyzer, which demonstrates high levels of accuracy when compared to laboratory measurements.

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



## Nexans


Save up to 50 per cent of space in data centre racks with Nexans' Slimflex Category 6A patching system. This new copper range consists of a 48 port panel, Slimflex cords and Category 6A high density connectors. Once installed the result is a neat and tidy high density installation.

The robust metal panel is designed to support the weight of 48 cables in a single height unit. With their 4.5mm diameter the highly flexible Slimflex cords improve airflow, reduce congestion and create a neat look and feel.

When organised in two orderly bundles of 24 they remain within a 1U footprint, avoiding over congestion in the rack for easier access. You can easily patch up to 48 Slimflex cords as the 24 connectors in the panel's top row are installed with their latches upwards, whereas the 24 in the bottom row have theirs facing down. Port numbers remain visible as they are located on the opposite side of the latch.

**CLICK HERE** to discover the Slimflex high density solution.
**www.nexans.co.uk/LANsystems**

# Boxing clever

Oli Barrington of R&M takes a closer look at preconfigured solutions and their benefits

In recent years the perception of what a data centre actually is has fragmented into multiple sub-definitions. Hyperscale, enterprise, modular, edge and micro are just a few examples – each having emerged from new requirements born out of not only how we use data, but also out of how we collect it and disseminate it.



## DEFINING MOMENT

As the definition of data centres fragments, so too must the development of physical infrastructure solutions. The needs of the different kinds of data centres become more diverse and must accommodate everything from purpose built white space to locating compute assets in an automated factory and everything in between and beyond.

How we house, connect, power, cool and manage systems in these different kinds of environments becomes more niche to each given application. The 'one size fits all' approach across product development is no longer suitable for today's data centre landscape. Therefore, infrastructure providers have started to develop solutions for specific types of data centres. One example would be the Open Compute Project (OCP) for the hyperscale market.

## PLANNING AHEAD

A concept that has been in the wings of data centre solution portfolios for several years is that of preconfigured cabinets – a cabinet pre-fitted with power, connectivity, cooling and management components before it is shipped to the customer. In recent years, while physical infrastructure requirements were less diverse and in many cases less specialised, this approach often seemed an expensive way of doing things. However, recent developments such as the Internet of Things (IoT) and artificial intelligence (AI) have created a greater need for compute functions at the edge and the preconfigured cabinet has come of age.

'Truly preconfigured ca are not just cabinets fit with power, cooling, se and connectivity – the value is in these infrast elements communicat one another.'

Truly preconfigured cabinets are not just cabinets fitted with power, cooling, security and connectivity – the real value is in these infrastructure elements communicating with one another. For example, the fire suppression system

communicates with the cabinet's power distribution units (PDUs), cooling and locking systems to provide a multi-layered response to a fire, leading to a better outcome.

## CARRY ON REGARDLESS

Preconfigured solutions make it possible to carry out work that can be done far better away from the customer site – and at a fraction of the cost – before shipment. This includes configuring services to communicate with one another, physical installation, ensuring components consume as little space as possible in the cabinet and ensuring control and communication cables are dressed unobtrusively, to name just a few examples.

binets
cted
ecurity
real
ructure
ing with

Many of the benefits of preconfigured cabinets are related to deployment and commissioning of services. This often requires multiple skills – electrical contractors; cabling engineers; IT personnel; heating, ventilation and air conditioning (HVAC) engineers and more. As compute services are moved out to the edge the locations become less installation friendly. It then makes sense to do as much of this work as possible at a production or pre-staging facility, where personnel, tools and equipment are readily available. Time on site is minimised and deskilled, thereby reducing installation costs and time.

## SOME CONSIDERATIONS

When choosing preconfigured cabinets, it's important to ensure that they suit the different environments in which edge computing is a requirement. In office spaces the solution must be aesthetically aligned with the room, for example, and in manufacturing facilities the cabinets

must protect IT assets from particles, contaminants and fluctuating power quality. Outdoors, protection from the elements and unwanted human interference is needed.

Preconfigured cabinets for edge computing, as well as integrating physical infrastructure services, should isolate the IT assets from the outside environment and visa versa. In an office environment staff need to be protected from noise and heat created by the IT assets, in a factory environment IT assets need to be protected against air contaminated with particles and chemicals.

Another challenge presented by the move to the edge is the fact that IT assets often need to be located in places that are not designed to house them. Organisations are faced with the prospect of having to make environments fit for purpose, this is usually expensive and often difficult to realise a return on investment (ROI), as many of these locations are temporary or short-term.



## SAVING GRACE

Creating a room that has a suitable power infrastructure, climate control, security and so on can become a major part of switching on a new location, whether that be office space, factory or a logistics facility. Preconfigured cabinets can be delivered to site prebuilt with all of the attributes of a traditional data centre or server room, meaning that building modifications are minimised and in many cases eliminated altogether – in a leased location these benefits are doubled when the lease ends and the facility has to be returned to the landlord in its original state.

When designed and deployed correctly, the cabinets and physical infrastructure

within are far less obtrusive to the building. If leased, this leads to significant cost savings both at the beginning and end of a lease period. Because infrastructure services are integrated into the cabinet this also means that they become re-deployable assets, enabling a greater

ROI. Components such as cabling and HVAC plant, often disposed of at the end of a lease, are easily moved as part of the cabinet to a new location. From an accountant's perspective, this definitely ticks boxes.

From a design point of view the concept of preconfigured cabinets also makes life a lot easier – with defined configurations for switch, compute and cabling distribution cabinets a building block approach can be taken, things like lengths for inter cabinet truck cables become a known quantity from the outset, leading to a greater degree of precision, faster deployment and better adherence to best practices.

## MEETING THE NEED

Whilst preconfigured cabinets bring limited value when deployed in purpose built white space, once out at the edge the concept solves a number of very real challenges whilst also reducing costs. The case for preconfigured cabinets in edge data centres is a strong one. Cabinets that come pre-fitted with connectivity infrastructure, power distribution, cable management and raceway, cooling, fire suppression and rack monitoring functionality – all based on the client's specific IT needs – enable organisations to deploy services rapidly, using a single physical infrastructure platform. This incorporates multiple services, without having to consider interoperability, working with multiple vendors and managing concurrent installation works, often in sensitive environments. ■

**OLI BARRINGTON**

Oli Barrington has been in the industry for many years and has built up a wealth of knowledge in the data centre and office cabling markets. He has worked in various sales and business development functions at suppliers and distribution companies. Before joining R&M in 2016 he worked at Nexans, Panduit, Cablenet and Zycko. Barrington combines strategic and commercial experience with technical knowledge to consult customers on the evolution of their network requirements.

# Colt Data Centre Services announces further expansion in Paris

Colt Data Centre Services (DCS) will be adding an additional 6.9MW of capacity to its flagship data centre in Paris. The expansion is in direct response to demand from existing customers.

Construction has already commenced and, once delivered, it will bring the total capacity built within a 24-month period at this data centre to 9.4MW. In addition to this capacity, further expansion capacity is planned within the next 18 months that will see a further 12MW of capacity added to the site, bringing the total data centre capacity to 23.9MW IT power.

Due to the successful take up (9.4MW) and planned investment in further capacity, Colt DCS' market share will vastly increase, targeting a position in the top five providers in the market.



# Metropolitan Police Service appoints Keysource to lead IT transformation

Keysource has won a two-year contract extension to provide specialist data, technology and IT estate management services to the Metropolitan Police Service (Met).

The appointment will see Keysource continue to manage and enhance strategic IT infrastructure for the Met, as part of its One Met Model 2020 transformation programme. In addition, Keysource will support the wider IT estate to maintain and improve availability as well as enable key projects, focused on modernising and improving efficiency for a safer London.

Keysource was initially appointed by the Met in 2015 to manage critical infrastructure including data centres that support emergency service communications, automatic number plate recognition and body-worn video footage. Keysource's consultancy led to the Met being able to consolidate three data centre sites into two, and develop new infrastructure to house and protect data from its 22,000 body-worn cameras.

# Equinix to invest $45m in Warsaw Product Development Center

Equinix has announced it will establish a Product Development Center in Warsaw to design advanced, customer inspired, software defined networking products, develop virtual IT infrastructure capabilities, and perform data science backed IT infrastructure research aimed at accelerating global digital business.

Equinix will invest approximately $45m in Warsaw over the next five years to support this talent initiative, which will make Warsaw one of three innovation locations of its kind globally, in addition to Singapore and Silicon Valley.

The new Warsaw facility will employ approximately 40 people in engineering and product management roles in 2018, increasing to 90 employees by the end of 2019. This highly skilled team will work on solutions that will be deployed in more than 200 Equinix data centre facilities in 52 markets worldwide to support customer's IT transformation needs.



## PROJECTS & CONTRACTS IN BRIEF

Ranplan Wireless has received £300,000 in funding over a two-year period from Innovate UK to develop a data analytics platform that can be used to predict and manage congestion in smart cities.

Eaton has announced the successful pilot of the first live data centre to use its UPS-as-a-Reserve (UPSaaR) solution for fast frequency response. In Norway, Basefarm trialled the service as part of a project led by Statnett and Fortum.

Next Generation Data (NGD) is helping deliver ultrafast 10Gb/s broadband connectivity to over 4,000 underserved small businesses in Wales and south-west England. NGD is partnering with Nextgenaccess (NGA) to enable a new 80km high capacity fibre route, connecting Bristol directly to NGD's Newport based data centre.

Indonesia's government has made a commitment to ensure telecommunications and broadband access for the country's fast growing population of 267 million people. In line with this vision, Moratelindo continues to develop the nationwide fibre optic network with the construction of the Jayabaya high speed submarine cable system for Java Island, with Nexans supplying a total of 915km of fibre optic cables for this project.

# Fluke Networks

The OptiFiber Pro High Dynamic Range (HDR) Optical Time Domain Reflectometer (OTDR) from Fluke Networks is the first OTDR that fulfils demands for a single solution to deal with applications ranging from FTTx, PON and data centres to structured cabling. Versiv users report that its efficient and familiar interface cuts costs by 65 per cent when testing, certifying and maintaining copper and fibre network installations.

The OptiFiber Pro HDR OTDR is designed to support the growing need for an OTDR that is able to test and document HDR applications supporting outside plant (OSP) back-haul and long-haul services, peer-to-peer (P2P), passive optical network (PON), and fibre to the premises installations. Three new singlemode modules address 1490nm, 1625nm and combined 1310/1550nm with a dynamic range of up to 42dB, allowing users to find more faults over longer distances.


Fluke Networks' modular Versiv Platform is the basis of the OptiFiber Pro OTDR solution. All Versiv models work with LinkWare PC reporting software and the LinkWare Live cloud-connected certification service. With over 14m results uploaded to date, LinkWare Live is the industry's leading solution for automated set-up and support of the certification devices and cabling projects.

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

# CNet Training

CNet Training has high level programs that utilise advanced teaching methods and allow the classroom learning to be undertaken in five days. This format has been applied to the following world leading programs from The Global Digital Infrastructure Education Framework, and to all delivery locations across the world:

- Certified Data Centre Management Professional (CDCMP) Learn how to maximise operation capability and achieve effective operational management of a data centre facility.
- Certified Data Centre Design Professional (CDCDP) Learn how to scope, plan and implement a data centre design utilising best practices and applicable standards across the key data centre infrastructures.
- Certified Data Centre Energy Professional (CDCEP) Become an expert in data centre energy management. Learn how to create an energy efficiency plan for your data centre. Includes creation, implementation, analysis and formulating recommendations with the ultimate objective of reducing energy use and carbon emissions.
- Certified Data Centre Audit Professional (CDCAP) Learn how to plan and implement a data centre audit. Includes the audit process and analysis of the data to verify the status of the data centre.

To find out more **CLICK HERE.**
**www.cnet-training.com**

# Patch App & Go

The Patch App & Go network tester and cable tracer introduces an efficient method for testing and tracing of any four pair LAN cables.

Each tester is supplied with a T1 Bluetooth Dongle and six Smart Remote Plugs, along with a FREE app, which is available to download from both the Apple or Google app stores.

Patch App & Go allows the user to carry out a basic continuity test on any Category 5e, Category 6, Category 6A, shielded or unshielded network cables and view wiremap results such as mis-wires, split pairs, shorts and open ends, directly on a smartphone.

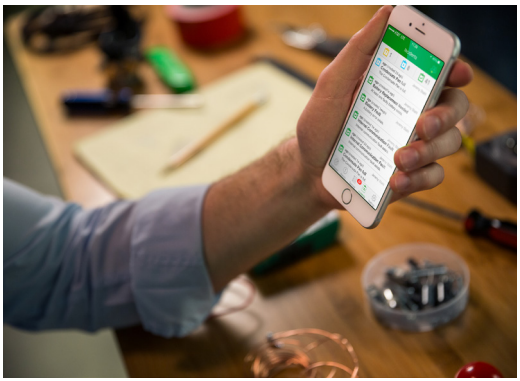

Each Smart Remote Plug is programmed with a unique ID, so as the user tests, the app displays wiremap results and confirms the ID of the Smart Remote Plug currently being tested.

One of the tester's unique features is its ability to save and then generate and email a PDF of the test results. To find out more **CLICK HERE.**
**www.patchappgo.com**



# Schneider Electric

Schneider Electric has announced the continued roll out of EcoStruxure IT Expert, its cloud-based data centre infrastructure management (DCIM) solution, with its release in Europe.



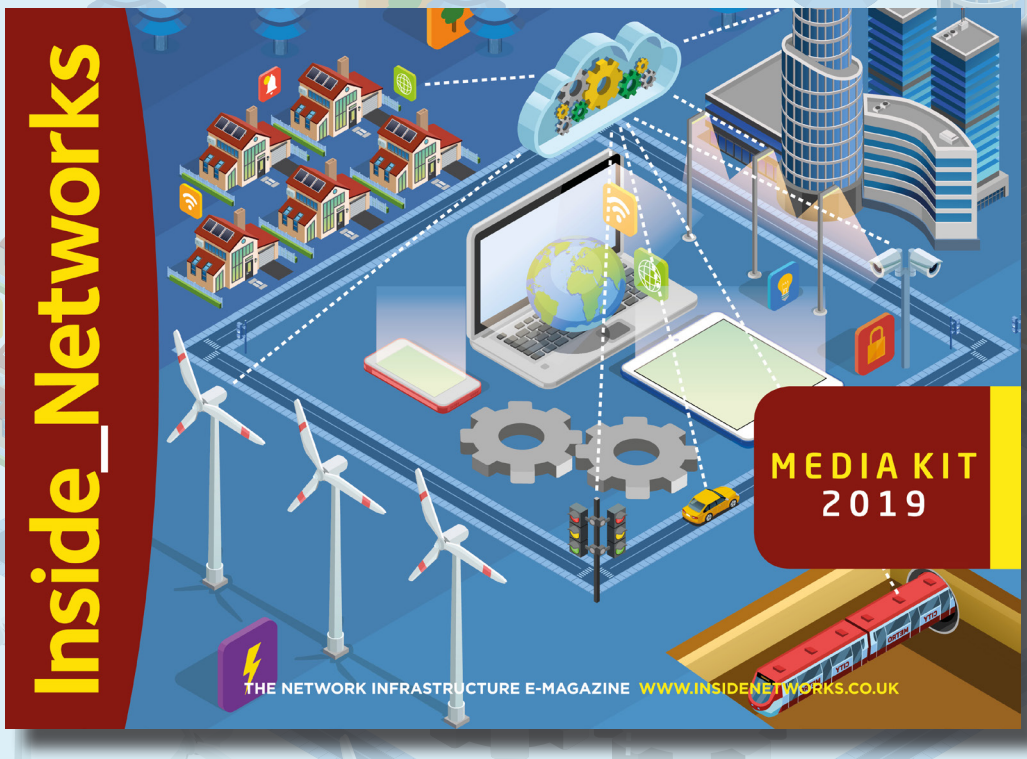
With IT Expert, Schneider Electric brings secure, vendor agnostic, wherever-you-go monitoring and visibility of all Internet of Things (IoT) enabled physical infrastructure assets.

As part of Schneider Electric's EcoStruxure architecture, IT Expert operates with all IoT enabled physical infrastructure assets like secure power and cooling – including the new, cloud enabled Smart-UPS with APC SmartConnect.

IT Expert addresses the data centre industry's need to simplify how data centres, distributed IT, and local edge environments are managed. Providing proactive recommendations and consolidated performance and alarming data, IT Expert can significantly reduce alarm noise and improve overall site resiliency.

To find out more **CLICK HERE.**
**www.schneider-electric.co.uk**

# All you need to know




CLICK ON THE COVER TO VIEW THE 2019 MEDIA KIT

# The times they are a changin'




The IT department has become the linchpin of every successful organisation, but how relevant will IT personnel be as the very technology they've nurtured begins to take over? Priyanka Roy of ManageEngine explores the past, present, and future of the IT department

In the present age, traditional IT departments are as rare a sight as the much debated Loch Ness Monster. Gone are the days when IT departments were the sole proprietors of technology in an organisation and, with the advent of new and disruptive technology such as mobile and cloud computing, technology users are more prevalent than ever in the workforce. But, does this mean that IT departments, which have traditionally kept the technology that drives organisations in check, are being replaced by these rising technological innovations, as some would have us believe?

## ROLE PLAY

The role of IT departments has gradually evolved over the years. IT is no longer merely a cog in the wheel. Today, IT is more aligned with business objectives, playing a more integral role in the workplace. In this scenario of shared business IT objectives and goals, the impact that IT has on the bottom line is huge. That said, no conversation on the way that the role of IT has changed within organisations is complete without a look into the way IT has infiltrated the C-suite in the form of chief information officers (CIOs) and chief technology officers CTOs.

Once seen as caretakers in charge of keeping their organisation's IT systems ticking, IT departments have seen significant growth in their influence across the organisation. From customer service to sales and marketing, every department has become increasingly reliant on technology. ManageEngine's 2017 study into the alignment between IT departments and their wider organisations found that the influence of the IT department is considered vital to business success. The results tell a story of businesses increasingly relying on IT departments for guidance and knowledge.



## FACTS AND FIGURES

42 per cent of respondents from that survey reported that their IT department is always or regularly involved in business decisions, while a further 37 per cent stated their IT department is sometimes involved. This makes sense given just how valuable data has become to organisations today. However, even if you are amongst the minority who still see those working in IT as simple supervisors of systems and processes, it is important to remember that it is these very systems and processes that are integral to the collection, analysis, and end use of data, making them vital to the organisation's success.

While the findings of this ManageEngine survey solely represent IT departments in the UK, these results should indicate how IT's influence is building around the globe, considering the fact that London is widely perceived to be the world's leading technology hub.

## ALL CHANGE

No longer are IT leaders middle managers reporting to the board. IT now represents a crucial share of the board, with CIOs becoming increasingly common C-suite fixtures. The role of a CIO, first introduced in the 1980s, was initially focused on in-depth technical projects. However,

'With IT gaining influence in the boardroom and respect across the organisation, the future looks bright and a career in IT is more attractive than ever before.'

the role has grown in both prevalence and scope. Now that technology, data, and security are so critical to every organisation's success, today's CIOs are key boardroom influencers and significant contributors to the direction of a business.

IT personnel that haven't made the jump to the boardroom are still finding themselves with more responsibilities, simply because IT systems have changed. Today's IT departments aren't just configuring network endpoints, performing system maintenance and provisioning new user accounts – they're leveraging cutting edge technology to protect their networks from attacks and respond to end users' requests more efficiently, on top of prioritising all those classic IT tasks.

Corporate endpoints have grown to include smartphones, tablets, and even a few IoT-enabled devices, but some of the more drastic changes have come with IT systems on the back end. Sure, enterprises are still using some form of active directory to manage user accounts and privileges, however, there are many new systems in the IT security space.

## SECURITY GUARD

The increase in cyber attacks has made more advanced IT security systems an absolute necessity. Intrusion detection systems, intrusion prevention systems,

honeypots, and other security technologies have shown that network security goes far beyond setting up a firewall. IT departments have also started applying big data as a salve for their security concerns – one of the clearest examples of this is security information and event management. Some threat detection systems even use machine learning to help IT departments cut back on the number of false positives.

Speaking of artificial intelligence (AI), even one of the oldest IT systems – the help desk – has been touched by this trending technology. Chatbots are taking up Tier 1 support so help desk technicians can focus on building a better knowledge base, responding to more complicated tickets, and completing more complex IT service management tasks that can't be automated or replicated by a machine.

## WHAT'S IN STORE?

With IT gaining influence in the boardroom and respect across the organisation, the future looks bright and a career in IT is more attractive than ever before. The IT team will continue on its upward trajectory as the cornerstone of a business' foundation. Speaking of the challenges that organisations foresee, the results from the ManageEngine survey revealed internet and IT security are recognised as the top IT challenges for 50 per cent of businesses.

Some have suggested that the rise of automation marks the end of the line for humans working in IT. However, these technologies simply automate the mundane and menial tasks from the workloads of IT employees, enabling them to roll up their sleeves and get involved with exciting, large scale IT projects that will increase the agility of their respective organisations.

## VALUE JUDGEMENT

As organisations become increasingly technology-centric, the role of IT will continue to evolve with the influence and importance of IT growing exponentially in value. The successful businesses will be the ones who adapt to the changing technologies and recognise the crucial role that IT departments play in facilitating the prosperity and longevity of the business. ■

**PRIYANKA ROY**
Priyanka Roy is a product consultant at ManageEngine, a division of Zoho Corporation.

08:25

WE HOPE YOU HAVE ENJOYED

# Inside_Networks

## COMING UP IN FEBRUARY 19'S ISSUE:

SPECIAL FEATURES:
> COPPER CABLING SYSTEMS
> COLOCATION DATA CENTRES

**TO FIND OUT MORE ABOUT PROMOTION WITHIN THESE FEATURES CLICK HERE**

- ALL THE LATEST NEWS, VIEWS, COMMENT AND ANALYSIS
- WHAT TO CONSIDER WHEN SELECTING AN OPTICAL FIBRE SYSTEM FOR A DATA CENTRE
- THE DRIVING FORCES BEHIND INTEREST IN THE EDGE
- WHY CATEGORY 7 AND CATEGORY 7A NO LONGER OFFER AN ADVANTAGE
- STEVE HONE GOES UNDER THE SPOTLIGHT
- WHY NEXT GENERATION NETWORKING IS NOT ALL SOFTWARE AND BOTS
- MOVES, ADDS AND CHANGES IN THE CHANNEL
- NETWORK INFRASTRUCTURE CASE STUDIES FROM AROUND THE WORLD
- THE LATEST PRODUCT, SYSTEM AND SERVICE DEVELOPMENTS