

Power of good

HOW MUCH OF A GAME CHANGER IS IEEE 802.3BT POE IN THE DEVELOPMENT OF INTELLIGENT BUILDINGS?

Light headed

DEVELOPMENTS IN OPTICAL FIBRE STANDARDISATION

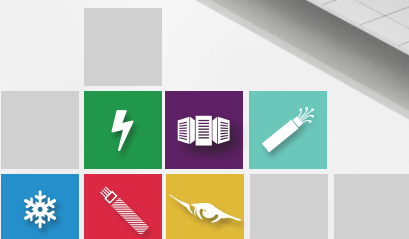
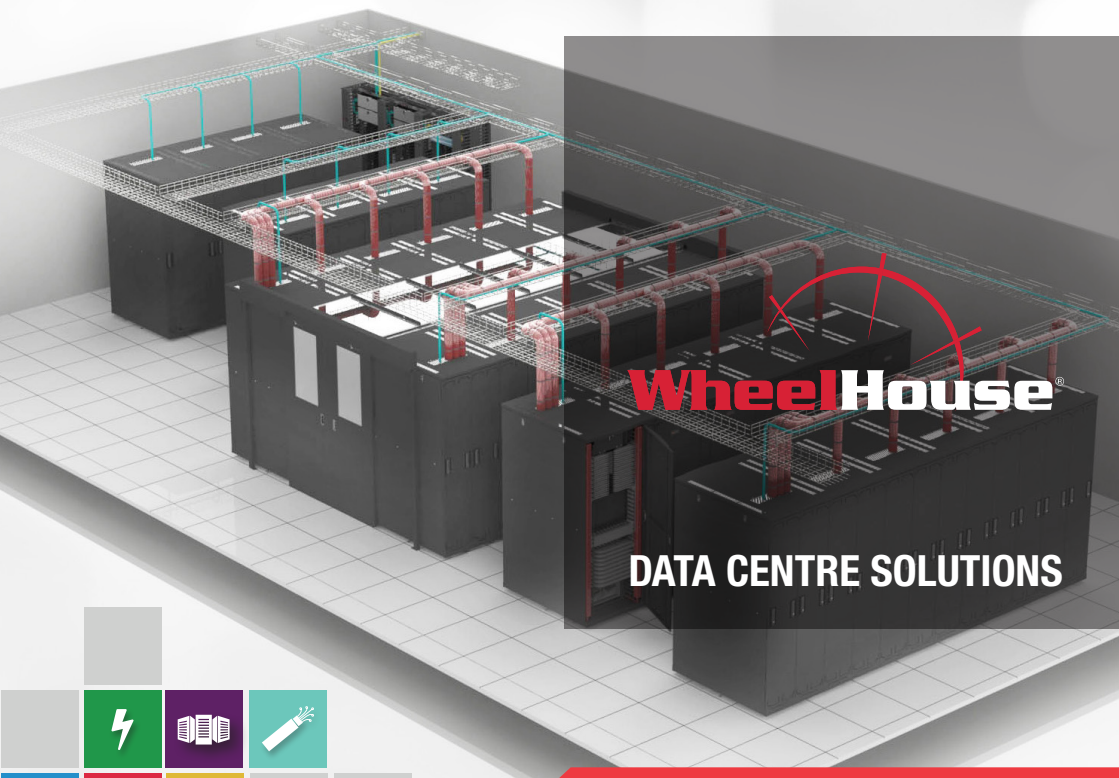


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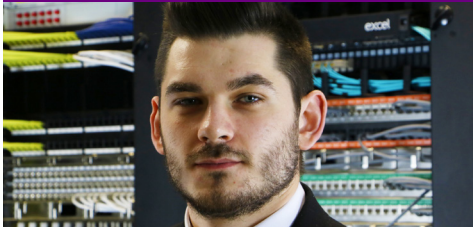
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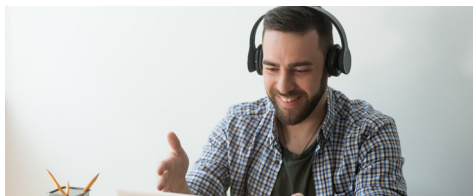
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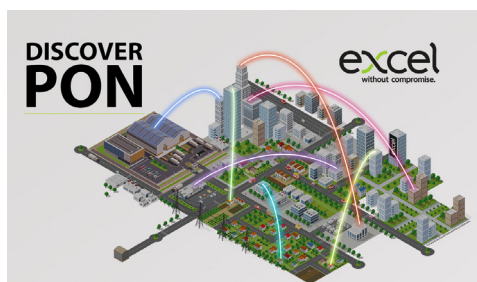
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Amongst the many highly impressive innovations that have been introduced in the structured cabling arena, one of the most significant has to be power over Ethernet (PoE). It would be no exaggeration to state that it has facilitated the growth and development of intelligent buildings in ways that few could have imagined.

Introduced in late 2018, IEEE 802.3bt is the latest generation of PoE that is able to provide up to 100W of DC power to each PoE port. This means that an even greater array of devices, many of which were previously unable to utilise PoE, can now do so. We've asked a panel of experts to assess how much of a 'game changer' IEEE 802.3bt is in terms of creating a single network infrastructure for building services technologies, and how it will affect the specification of structured cabling within buildings. You can read this month's Question Time by [CLICKING HERE](#).

Staying on the cabling theme, the way that optical fibre technology is designed, specified and utilised continues to develop, so Mike Gilmore of the FIA explains the impact and relevance of standardisation in this area, while Tayfun Eren of Prysmian Group looks at how standardised OM5 multimode fibre technology provides a cost effective transmission medium. [CLICK HERE](#) to read Mike's article and for Tayfun's [CLICK HERE](#).

Knowledge is power, as the old adage goes, and with so much more to learn about, training and skills development in the enterprise network infrastructure and data centre sectors is evolving in new and exciting ways. Leading the way in this area is CNet Training and in this issue the company's Sarah Parks examines some of the innovative and accessible ways knowledge is being expanded. You can read her article by [CLICKING HERE](#). On a similar theme, Andy Hirst of Sudlows explains how a well trained, engaged and highly skilled workforce can ensure that work is carried out to the highest standards and you can read his perspective 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.

R. Shepherd



Rob Shepherd Editor

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Data centre pricing remains higher in the UK than in other large EU markets

The January 2019 editions of the Euro-Data Centre and the UK Data Centre Trends Trackers published by datacentrepricing.com (DCP) highlight that UK average pricing remains more expensive than the other large markets of Germany, France and the Netherlands.

The UK Data Centre cluster pricing varies by 40 per cent according to UK geographical region. The report also reveals that the fast growth European data centre clusters include Frankfurt, Amsterdam and Slough – with Frankfurt uniquely being the largest cluster in Europe, as well as being among the

fastest growing.

A DCP spokesperson said, ‘Germany has seen rapid growth in data centre space and facilities – with new developments focused on the Frankfurt area. New facilities are currently being built by Equinix, Etix Everywhere, e-shelter, Interxion, Global Switch & CyrusOne in Frankfurt, with Noris Networks extending its Munich facility and T-Systems expanding its Biel facility. Frankfurt as a result has become the largest single data centre cluster in Europe – overtaking the London and inner M25 cluster.’

Two in five global organisations waste more than \$100,000 a year storing useless IT hardware

New research from Blancco Technology Group has outlined the cost to global organisations of old, outdated IT equipment cluttering up data centres. A survey of 600 data centre experts from APAC, Europe and North America revealed that two in five organisations that store their data in-house spend more than \$100,000 storing useless IT hardware that could pose a security or compliance risk.

More than half of these companies (54 per cent) have been cited at least once or twice by regulators or governing bodies for noncompliance with

international data protection laws. Fines of up to \$1.5m could be issued for violations due to storing data past its retention date, with that number multiplied by the number of years each violation has been allowed to persist.

‘Global organisations are unnecessarily wasting vast sums of money from non-compliance and on-site storage fees – charges that could be easily mitigated,’ said Fredrik Forslund, vice president, enterprise and cloud erasure solutions at Blancco. ‘This points to a huge lack of education within the sector about what to do with hardware that is faulty or has reached end of life. Organisations are letting this hardware pile up in fear of data

leakage, resulting in loss of efficiency, increasing capital costs, possible non-compliance and potential security risks.’



Fredrik
Forslund

Excel expands its business development team

Excel Networking Solutions has expanded its UK business development team. Daniel McKeon has recently been promoted

to business development manager and his responsibilities in his new role will include liaising with consultants, M&E contractors, main contractors and end users

about their IT infrastructure requirements for upcoming projects, to ensure they are compliant with the latest industry standards and regulations. He will also be actively involved with the design of the

network to ensure the components cover all aspects of the clients' requirements.

McKeon commented, 'I am hugely

excited about taking on this new and challenging role with Excel. Having worked in the business development team for the last two years in a support role, I have gained a great deal of knowledge and experience so

I am confident that I can help to educate consultants and end users on the latest standard updates and about the breadth of the product offering and the capabilities of the Excel brand.'



Over 35 per cent of companies view digital disruption as an opportunity rather than a challenge

Savoy Stewart recently sought to identify whether businesses view technology disruption as an opportunity or threat, though an analysis of the latest research conducted by Futurum.

36.9 per cent per cent of companies view technology disruption as an opportunity to improve and grow as a business. However, one in four businesses still struggle to keep up with the times and thrive from digital disruption. Despite this, whilst weighing up the opportunity versus threat of technological disruption, 39.6 per cent of

businesses feel that it provides them with new opportunities to improve and grow as a company.

A spokesperson at Savoy Stewart said, 'Whilst 29.5 per cent of companies stated they feel very

excited about their ability to adapt over the next three years, only 18.3 per cent rated themselves as digital leaders. These individuals are highly proactive and agile business leaders who are ahead in their strategic and operational anticipation of the technological change facing them and their organisations.'



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BS 10012:2017 is a best practice



framework for setting up a personal information management system (PIMS), which facilitates compliance with data protection legislation. In achieving this latest certification, NGD underwent an independent assessment including a thorough on-site audit covering all the requirements of BS 10012.

Justin Jenkins, NGD's managing director, commented, 'NGD is duty bound to ensure the highest standards of data protection, privacy and security. The recent introduction of stringent GDPR legislation has made this an even more critical requirement.'

UK tech sector growth cools

The UK tech sector experienced a difficult end to 2018, as business activity growth eased to its weakest for three years and new work remained subdued. Global trade frictions and Brexit related uncertainty were widely reported to have acted as a headwind to client spending.

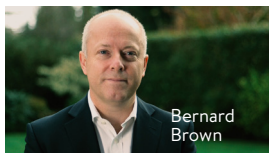
At 52.4 in Q4, the KPMG UK Tech Monitor Index – which measures the strength of business activity across the sector – remained above the 50.0 no-change value, which continued the upward trend signalled since the summer of 2012. However, the latest reading was down from 54.0 in Q3 and pointed to the slowest rate of tech sector business expansion since Q4 2015.

Tech companies also signalled the sharpest fall in backlogs of work for seven years, suggesting a lack of new work to

replace completed projects at the end of 2018. Some tech companies have

responded to subdued business investment across the wider economy by putting the brakes on staff hiring at the end of last year.

Bernard Brown, vice chair at KPMG UK, said, 'Our survey revealed that political uncertainty has dented client confidence, contributing to a slowdown in growth at the end of last year. But, buoyant staff hiring and capital expenditure plans are still in place for 2019. This confidence is reflected in the statistic that almost 50 per cent of UK tech firms intend to add jobs over the next year, whilst many traditional manufacturers are considering moving jobs offshore. This demonstrates the strength and resilience of the UK tech sector in the new digital economy.'



UK workers are risking GDPR penalties by forwarding work emails to personal accounts

A survey of 1,002 UK workers in full or part-time employment, carried out by Probrand, has revealed that 64 per cent of people admitted to having forwarded a customer email to their personal email account following the introduction of GDPR. Given that earlier research from the company found that more than half (55 per cent) of all UK based businesses were breaching GDPR laws by not having an official process or protocol for disposing of obsolete IT equipment, this news is perhaps less surprising.

Worryingly, according to the data, 84 per cent of the workers who admitted to forwarding customer emails to their personal accounts didn't feel they were

doing anything wrong, as there was no malicious intent behind their actions, despite the fact that this notion of

innocence would likely be deemed irrelevant if it came to a legal judgement over whether there had been a breach of GDPR laws.

Matt Royle, marketing director at Probrand commented, 'What may seem like an innocent and even helpful action of workers trying to catch up on work

out of hours is actually a clear breach of GDPR laws. This is because the worker in question will have unwittingly forwarded sensitive personal customer information and/or their own employer's intellectual property to a third party outside of the corporate network.'



Matt Royle

NEWS IN BRIEF

UKFast has announced the appointment of Catherine Greening to the role of chief financial officer (CFO) as the firm embarks on an ambitious five-year growth plan.

NovoServe has established a 40 Gigabit Ethernet port connection to the Asteroid Internet Exchange Point (IXP).

IX Reach has expanded its partnership with AMS-IX into India to bring robust and resilient connectivity into AMS-IX's Internet Exchange in Mumbai.

Nextgenaccess has appointed Steven Marshall as chairman.

Panduit has acquired global audiovisual manufacturer, Atlona.

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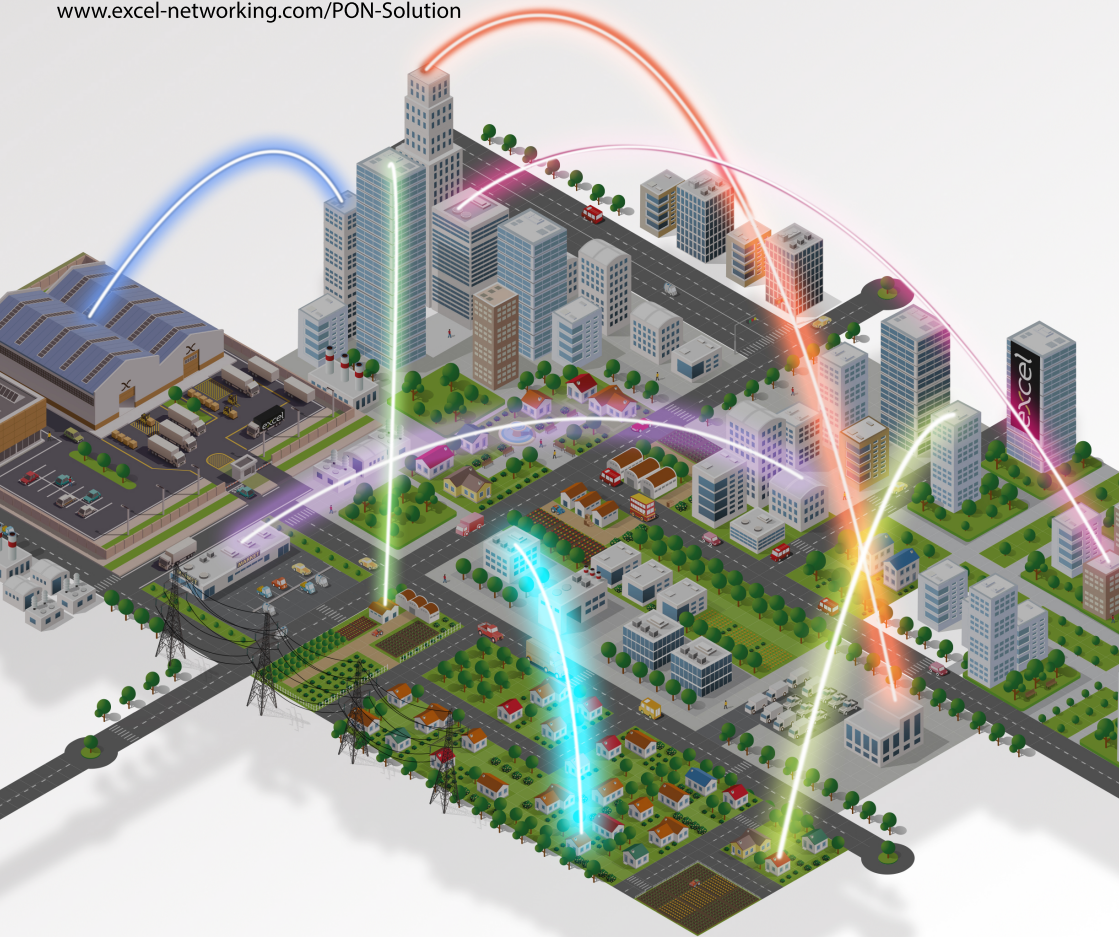
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Use it or lose it

Hi Rob

The article 'What's the use?' in the Feb 19 issue of Inside_Networks' raised some interesting points as to whether there is a requirement for Category 7 and 7A cabling in light of the recently ratified Category 8. However, I felt that the article did not encompass all the relevant points that should be considered when evaluating the different cabling categories.

When we consider today's IP converged enterprise networks – where a single unified structured cabling infrastructure supports data, voice, video and low voltage building automation systems such as lighting, HVAC, security and fire and safety systems – Category 7A cabling provides huge benefits. This is because of its ability to supply low voltage power via advanced power over Ethernet (PoE and PoE+) technology to IP-enabled end devices.

What's still less well known to some industry professionals is that power delivery leads to temperature rise inside the cable, increasing insertion loss and leading to

performance degradation of the cable. As a result, cable length de-rating factors and quality of connectivity have to be taken into consideration to ensure compliance with specified insertion loss limits.

Whilst the article mentions the possibility to mix Category 7A cable with lower Category RJ-45 connectors, a channel that's entirely based on Category 7A TERA connectivity ensures higher electrical performances. Fully shielded end-to-end Category 7A cabling can support 10Gb/s PoE(+) applications, with cabling channel lengths of up to 100m at higher temperatures with no insertion loss length de-rating.

In today's intelligent buildings, lower speed 10/100Mb/s applications, and even non-IP sensors and analogue cameras etc, benefit from the cable sharing feature of Category 7A TERA, which allows for an optimised number of network links. When we take a closer look at the data centre environment, it is also worth mentioning

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that ISO standardised Cat8.2 TERA cabling provides enhanced internal and alien crosstalk and insertion loss performance over Category 8/8.1 RJ-45-based systems.

The TERA connector, when combined with Siemon's 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 for 25 Gigabit Ethernet and 40 Gigabit Ethernet switch-to-server applications in the data centre. And not to forget that standards just refer to minimum required performance, whilst the quality of a cabling solution depends on the warranted margins over standard parameters.

On the point raised about the need to install TERA to RJ-45 hybrid cords, it is worth pointing out that installing hybrid cords is a common cabling practice, for example, in fibre infrastructures with hybrid optical fibre cords such as SC-LC cords. Deploying TERA to RJ-45 hybrid cords still ensures that the physical channel is entirely TERA based, as the connector at the equipment end of the cord is not part of

the channel.

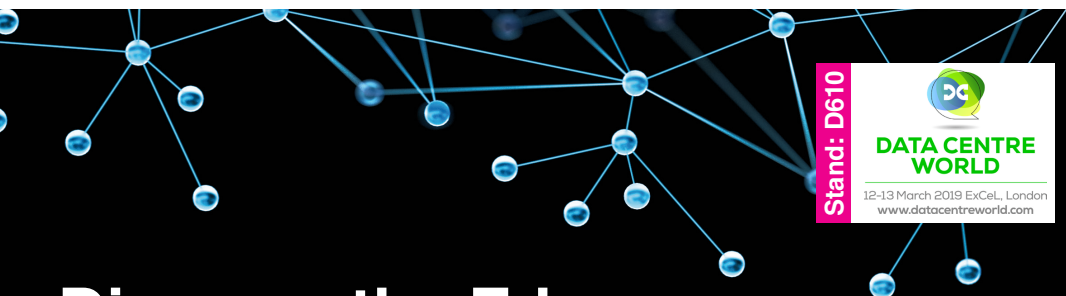
We have also started to see some application specific active equipment enter the market, such as switches for the transportation sector that use direct TERA interfaces. For high speed data centre applications we should also expect to see some equipment manufacturers adopt TERA as a Cat8.2 interface for superior end-to-end 25 Gigabit Ethernet and 40 Gigabit Ethernet transmission with lower equipment power consumption.

Alberto Zucchinali
Siemon

Editor's comment

Alberto makes a good case for not writing Category 7 and Category 7A off just yet, although only time will tell whether the applications that he outlines are enough to turn the tide when it comes to its adoption. Certainly, when it comes to temperature rise inside cables, Category 7 and Category 7A have some advantages and you can read more about it in this month's Question Time.

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Staying power

Over the last 15 years power over Ethernet (PoE) has revolutionised the way devices are specified and IEEE 802.3bt means that it is now possible to deliver up to almost 100W of DC power. [Inside_Networks](#) has assembled a panel of industry experts to examine the impact of this new standard on the development of intelligent buildings.

▶ Since 2003 when the first PoE standard – IEEE 802.3af – was ratified, the workplace has changed out of all recognition. PoE integrates data, voice, and power on standard Ethernet infrastructure, providing a range of new options for power distribution. In addition, it has eliminated the need for separate data and power cables and has significantly

design and deploy their corporate networks, enabling even smarter buildings to be created through the use of a single network infrastructure.

There are some issues to be aware of though, most notably heat dissipation within cabling. Although IEEE 802.3bt states that Category 5e cable or higher is needed, Category 6A shielded is

GIVEN THE IMPORTANCE OF POWER OVER ETHERNET IN THE DEVELOPMENT OF INTELLIGENT BUILDINGS, HOW MUCH OF A 'GAME CHANGER' IS IEEE 802.3BT IN TERMS OF CREATING A SINGLE NETWORK INFRASTRUCTURE FOR BUILDING SERVICES TECHNOLOGIES? HOW WILL THIS STANDARD AFFECT THE SPECIFICATION OF STRUCTURED CABLING WITHIN BUILDINGS AND WHAT DO YOU THINK THE FUTURE HOLDS FOR POE?

simplified the installation and maintenance of networked devices.

IEEE 802.3af provided up to 15.4W of DC power per device but in 2009 IEEE802.3at – or PoE+ – almost doubled provision up to 25.5W of power over Category 5 cabling or higher. In September 2018, however, PoE took a step change with the ratification of IEEE 802.3bt, which utilises all four pairs of structured cabling, with the Type 4 variant able to provide up to 100W of DC power to each PoE port. This means that an even greater array of devices, many of which were previously unable to utilise PoE, can now do so. IEEE 802.3bt will change the way that enterprise network personnel

viewed as the minimum required to deal with the effects of heat build up and maintain the desired performance levels.

With PoE already having played a fundamental role of the development of increasingly intelligent buildings, IEEE 802.3bt represents a significant development. In order to assess its impact and examine how it will affect the specification of structured cabling, 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.

JASON JAMES

TECHNICAL DIRECTOR AT HELLERMANNTYTON

Just because a device can be remotely powered doesn't always mean that it should. Sure, providing power source equipment (PSE) to remotely power building services technologies is a highly efficient way of not having to deploy a significant number of mains power outlets, however, those remote devices, and in some cases there are lots of them (think LED lighting), all require current. In the case of a IEEE 802.3bt Type 4 powered device (PD) that current can be as much as 1A per pair – in every pair, in every cable!

Experimentation presented in ISO 11801 TR99 illustrates that this amount of power can produce temperature increases of some 40°C above ambient depending on the cable type and bundle size used. Of course, this is an extreme example where large bundle sizes, small Category 5 U/UTP cables and large currents were used and not all building services will require that. The actual maximum permissible is only 15°C but keeping to this doesn't happen by accident.

The convenience of this technology and the ease with which it can be deployed must be matched with the capability of the infrastructure being called upon to carry it. Many building services don't require the high data rates of the latest Ethernet protocols – they don't require Category 6A shielded cables. In short, the cables best suited for remote powering, due to their increased sizes and shielding, ie Category 6A F/FTP, won't necessarily be considered

for non-LAN, building applications. Therefore, the subsequent power carrying capability of the infrastructure will be

potentially way below that which is needed.

The responsibility for the infrastructure also raises an interesting question over ownership. Any significant increase in cable temperature will adversely affect its data carrying capabilities. When those errors reduce the network's throughput it will be the IT desk that receives the call. If facilities management is responsible for patching the

LED lighting, causing the increase in power requirements, who gets to sort it out?

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CARRIE GOETZ

GLOBAL TECHNOLOGY DIRECTOR AT PAIGE DATACOM SOLUTIONS

New PoE technologies show great promise for devices that require higher power than prior technologies would allow. This will be advantageous for things like wireless access points, high resolution security cameras and heat requirements, to name a few. Smaller lower powered devices like sensors, door controls, etc. will likely remain unaffected until some new technology is added that will require more power.

With the higher power requirements, the size of cable bundles will become a concern for intelligent buildings.

Contractors and designers will need to determine when and if any limited power (LP) cable will be needed. It is unfortunate that these solutions are being marketed as necessary for all 4PPoE applications when that is simply not the case.

Newer length optimised cables that exceed the standard 100m length will help with deployments where there are not intermediate distribution frames at the convenient 100m mark, or where repeaters are not allowed in pathways – high security areas, for instance. I think there are many products that will come along to not only utilise, but also be complementary to the IEEE 802.3bt standard.

Power has been a constraint for many

desired devices and raising that limit opens many possibilities. For instance, DC based laptops could now be an option. The amount of bandwidth that is carried over a cable is

not the concern anymore, but rather the power that is supplied may now be the primary design factor. The amount of copper in the conductor, heat rise and shielding will all play a part in design scenarios and I believe that a variety of end devices that were not able to run over smaller gauge category cables will soon have a twisted pair option.

The biggest advantage could very well be through the coordination of talent and installation companies within a building. Instead of having multiple contractors

pulling cables and having to coordinate services, we are well on the path to having structured cabling installers being able to pull for multiple systems at once. As devices consolidate on fewer cabling systems, the management and information that we can attain becomes more concise, actionable and relevant.

'As devices consolidate on fewer cabling systems, the management and information that we can attain becomes more concise, actionable and relevant.'



KEITH SAWYER

TECHNICAL SERVICES DIRECTOR AT NETWORKS CENTRE

There is little doubt that the ability to transmit power over all four pairs of a data cable represents, perhaps, the final step in the evolution of PoE.

However, IEEE 802.3bt has to be seen in context with other standards that have been amended in 2018 that also impact on adoption. In combination with EN 50173-2:2018, which no longer recognises Class D/Category 5e for new office spaces, it becomes a more compelling proposition. Whether these new standards will accelerate the implementation of connected buildings or IoT remains to be seen but this will ensure that office cabling infrastructure in future is fit for purpose for adoption of some form of PoE.

95W PSE, as ushered in by IEEE 802.3bt Type 4/PoE++, brings into scope more remote powered device types, including lighting, signage and monitors, as well as higher power, Wave 3 access points and turret pan, tilt, zoom (PTZ) CCTV. Logic would indicate greater implementation of zone architectures to minimise cable run lengths and support extra low voltage office desks that will power a laptop or a low wattage PC. If there can be a reduction in the number of 13A sockets in an office there could be a tipping point when deploying PoE makes economic sense all round.

The cable length and type will be more critical than previously due to potential losses. With the introduction of modular plug terminated link (MPTL) in standards such as ANSI/TIA-568.2-D, there comes a simplification of cabling to remote devices and, consequently, less points of failure/

lower loss. However, installers will need to become familiar with test methodology for MPTL links.



Readers will be fully aware of the potential for power loss over copper cables and the restrictions that will apply to using legacy Category 5e and Category 6 24AWG cables for PoE+ and now PoE++. With the introduction of IEEE 802.3bt and use of all four pairs, it will be necessary to confirm the suitability of existing cabling.

However, it is not just the type of cable and cross sectional area (CSA) of the conductor but it is also advisable to check the resistance unbalance between the pairs, which is defined in IEEE 802.3bt. If this is unequal – for example, due to uneven twisting of cable – this could cause performance issues. In addition, mating RJ-45 plugs and sockets will ideally need to be selected to minimise arcing at the connectors when subjected to powered connection and disconnection. There are several manufacturers that have designed connector contacts with this in mind and new testers to check PoE availability are also being introduced.

Overall, there is a lot to take in but everything points to widespread future adoption of PoE in new buildings.

‘With the introduction of IEEE 802.3bt and use of all four pairs, it will be necessary to confirm the suitability of existing cabling.’



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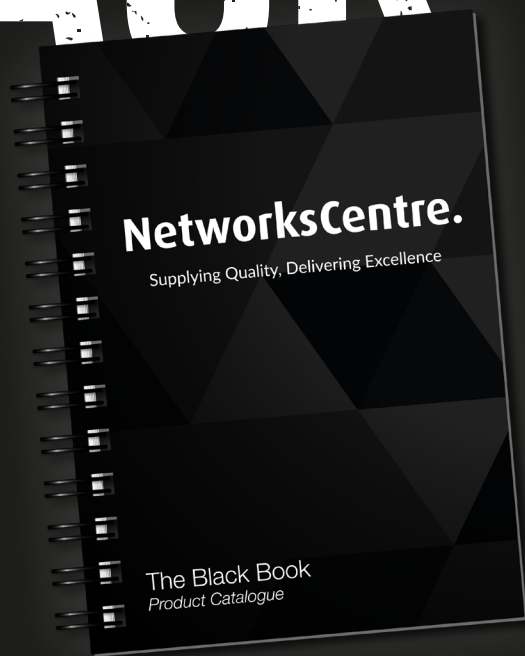


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CHRIS FRAZER

PRINCIPAL CONSULTANT AT LAYER ZERO SERVICES

The power available under IEEE 802.3bt of up to 100W, combined with the continued reduction in power required by many IT and non-IT related devices, is swiftly bringing us to a point where a structured cabling system can be viewed as a power delivery medium as much as a data delivery one. For that reason alone, I believe that IEEE 802.3bt is a real game changer.

There will be more cabling required in buildings in the future to support PoE devices, just in lots of very different places. We've already

seen how PoE has allowed IP telephones, wireless access points and CCTV to flourish due to the fact that an electrical socket isn't needed for them. Therefore, the future product potential with 100W available is huge, both for product types already available that could now be enhanced to use 100W PoE, and for other products that have yet to be developed.

PoE has a great future for devices that need power and Ethernet, but don't forget that the structured cabling system could now be used to deliver 100W, regardless of whether a device needs Ethernet as well, providing that the power injection is compatible, such as with midspan devices. Potential growth areas include occupation sensors, laptop charging, display screens,

digital signage, thin client, point of sale, LCD TV, security and lighting.

Now, structured cabling system designers need to think about how best they can

deliver power and data, and help end users to select really beneficial products.

Designers are now able to expand their horizons with regards to how a cabling system can be extended to cover much more than ever before.

You may also be able to see the huge potential here too, rather than just being a structured cabling system

designer, the future is for extra low voltage (ELV) system designers, who can own the whole cabling space. Structured cabling system designers must step up to own this space and become significantly more knowledgeable about PoE and other low power devices, or risk their work being eroded.

'A structured cabling system can be viewed as a power delivery medium as much as a data delivery one. For that reason alone, I believe that IEEE 802.3bt is a real game changer.'



MATTHIAS GERBER

MARKET MANAGER OFFICE CABLING AT R&M

Today, PoE can power enough LEDs to light up entire concert venues and shopping malls, as well as IP cameras, access control systems, WLAN antennas, checkouts, building sensors and more. Many of these applications require continuous high electrical current.

The IEEE 802.3bt standard increases the maximum PD power available by utilising all four pairs in the specified structured wiring plant. To me, this is not only a big game changer, but also an enabler for the IoT. PoE will enable a wide range of additional applications.

Furthermore, the usability of growing volumes of LAN cable will increase vastly. However, the power transmitted will also result in greater stress on the cabling and passive network components. For the cabling, distribution and connection technology, values that could previously be tolerated for an occasional peak load might soon impede continuous operation.

To make the most of new generations of PoE, LAN cabling design will need to be adapted. There are three key factors involved in this. First, we need to consider cable bundle heating – temperature increases have to be managed to ensure error free data transmission. This can be achieved through careful cable selection, managing bundle sizes, and reducing link

lengths, for example.

Secondly, we need to look at spark erosion – that means making sure to select RJ-45 connectivity that is capable of

supporting IEC60512-99-02. The third factor is wire termination – current flowing through a bad wire termination can result in destruction of the connectivity. To guarantee high network availability, good operational reliability and

adequate building safety when operating high power PoE applications, an appropriate termination technology has to be selected.

The future is bright for LAN and PoE applications - as long as the product quality is sufficient to reliably support 4PPoE current!



‘Temperature increases have to be managed to ensure error free data transmission. This can be achieved through careful cable selection, managing bundle sizes, and reducing link lengths, for example.’

Made for Networks

The flat 'Angled Module' patch panel from HellermannTyton is a 1U panel that presents 24 keystone jacks at a 45 degree angle.

The 45 degree angle allows patch leads to be routed out to the side management within the cabinet, reducing the need to use additional cable managers and maximising rack space and port density.

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Documentary evidence

Mike Gilmore of the Fibreoptic Industry Association (FIA) explains the impact and relevance of optical fibre standardisation

32

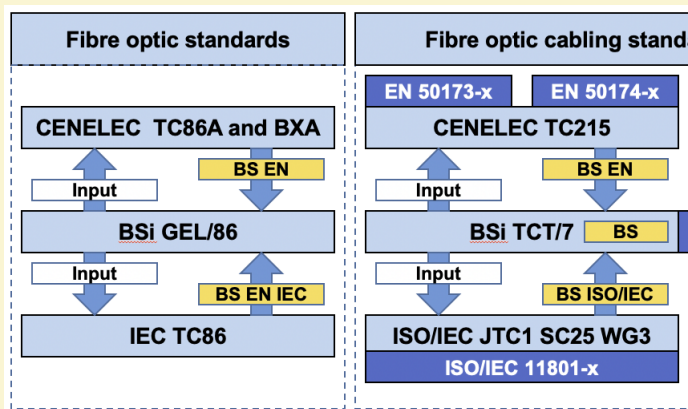
 I monitor standardisation at international and European level. The fibre optics committees of the British Standards Institution (BSI), headed by Technical Committee GEL/86, deal with standardisation of optical fibres, cables, connectors, splitters and couplers, closures, cabinets, test methods, sensors, optical amplifiers, wavelength division multiplexing (WDM), switches and active devices.

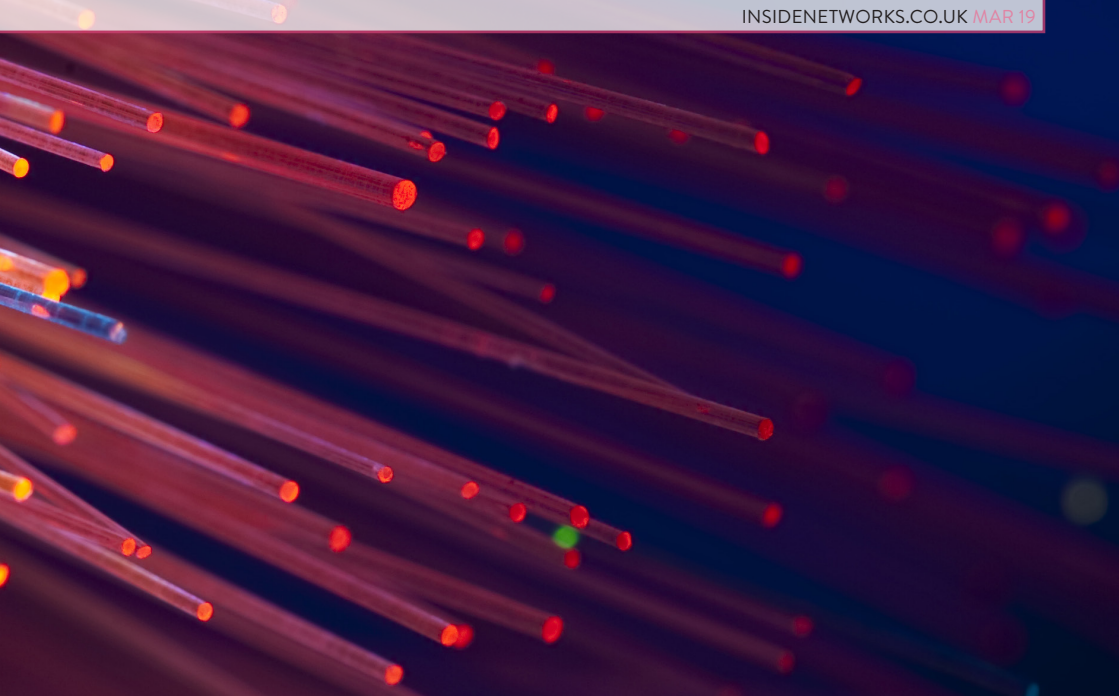
MANY AND VARIED

There are many hundreds of documents – a number that grows with the development of new standards and the revision or amendment of others. The overwhelming majority address products with a limited constituency or specify highly detailed test methods covering a particular fibre optic product, which are only used by manufacturers of that product

and are therefore used by a very small number of organisations.

This article cannot cover everything that is happening in this wide area of product standards. Instead it focuses on system standards for fibre optic cabling design and installation produced by other groups in BSI, headed by Technical Committee TCT/7. These standards directly affect the cabling industry and have the greatest impact on installers of fibre optic cabling





both in a technical and commercial sense.

Standards may be UK-specific, such as BS 6701, but the vast majority of British Standards are national implementations of European and international standards – designated as BS EN IEC or BS ISO/IEC. Virtually all standards in our industry are voluntary, meaning they are used in contract but they are not legal requirements or regulations. Even the famous IET Wiring Regulations are not regulations in a legal sense and are indeed a voluntary standard – BS 7671.

LAW AND ORDER

Nevertheless, legal arguments will always consider the contents of an applicable British Standard, independent of its origin, even if it is not explicitly stated in the contract under discussion. So the FIA focuses on the standards most often referenced by members and their customers, with the objective of

ensuring that they are understood in terms of contractual obligation.

System standards deal with complex combinations of components at an installation design, planning, practice or commissioning level. Such standards are small in number but they tend to be large documents containing many requirements and recommendations.

With regard to component choice in most cabling installations, customers request OM3, OM4 or OM5 for multimode, and OS1a and OS2 for singlemode cabled optical fibre. Comparatively few customers have committed to installations of OM5 product, even though this offers the opportunity to reduce the fibre count required to support for coarse wavelength division multiplexing (CWDM) solutions in future very high bit rate network implementations.

NEW AND IMPROVED

These products are specified in BS EN

ards

BS 6701

‘There are many hundreds of documents – a number that grows with the development of new standards and the revision or amendment of others.’

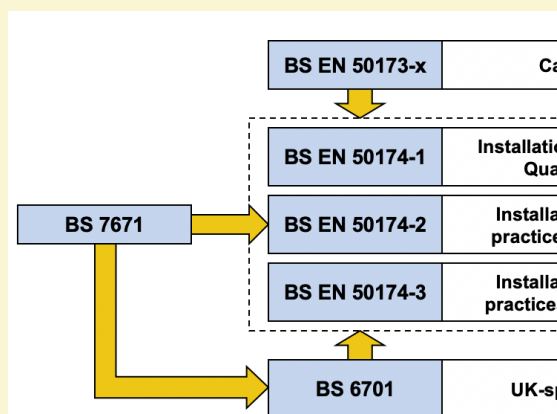
50173:2018 standards, or the technically equivalent BS ISO/IEC 11801:2017. The only new thing coming in 2019 is that the designation, but not the specification, of the optical fibres used to create the category cables are changing – but this really only affects cable makers, not installers.

In terms of future technical evolution within BS EN 50173 and ISO/IEC 11801 standards, there is little on the horizon for cabled optical fibre and the same is true for four pair balanced cabling – and all copper developments are focused on single pair copper developments. This aspect, combined with the focus on remote powering, is driving building owners to focus on BS EN 50173-6 (BS ISO/IEC 11801-6), which is the design standard for distributed building services (DBS) cabling. However, as the optical fibre cables used for the backbone cables are still those of the categories mentioned above, the impact on the optical fibre installer of the current refocus from office cabling to DBS cabling is negligible.

CONTENT PROVIDER

Purchasers of installations tend to be non-experts who tend to quote standards in

contract without fully understanding their intent or content. It is therefore critical that installers understand the requirements of the standards not only to ensure that they provide their customers with the service that they assumed they would receive but also to protect themselves in the event of inevitable ‘bumps in the road’ that occur in all complex installations.



For the installation of fibre optic cabling the BS EN 50174 series, BS 6701 and BS 7671 form the core of any competence assessment – but are independent of the cabling technology used. The inter-relationship between these standards

creates a virtuous circle to support proper specification, planning and installation.

FULL FORCE

The 18th Edition of BS 7671 came wholly in force in January 2019 and is supplemented by both BS 6701 and BS EN 50174 standards for telecommunications cabling. BS 6701 was updated in 2017 to include requirements

for cable fire performance and also requires conformance to the BS EN 50174 standards. In addition, conformance to the BS EN 50173 standards also requires the application of BS EN 50174 standards. So a failure to comply with the installation standards, either intentionally or accidentally, represents a clear and present risk for all installers.

Increasing awareness of both the standards and the associated risks is important. For example, all the BS EN 50174 standards have been revised or amended in the last year. The changes to EN 50174 have focused largely on the modified planning and installation practices related to remote powering over four pair copper cabling, leading

to the introduction of three categories of installation – RP1, RP2 and RP3. Although the main impact of such changes affects copper cabling, the potential impact on cable management systems will also affect installations of fibre optic cabling.

STANDARD ISSUE

To summarise, despite the large number of standards covering fibre optic products their day-to-day impact on the industry is limited. By comparison, the relatively small number of system standards are used regularly and it is the regular amendment and revision of these standards that has the greatest market impact. ■



MIKE GILMORE

Mike Gilmore is director of standards for the FIA and is leader of many standards activities in the UK, Europe and internationally. He is chairman of CENELEC TC215 addressing cabling design (EN 50173 series), and installation (EN 50174 series) and the wider topic of data centres (EN 50600 series). In 2018, Gilmore received the IEC 1906 Award for his work within ISO/IEC JTC1 SC25 as project leader on the ISO/IEC 11801 and ISO/IEC 14763 series, and for 'both technical and organisational contributions to the group'.

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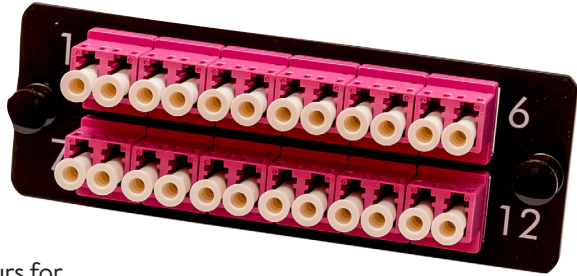
Nexans

Nexans has extended its data centre portfolio with OM4 violet coloured products, which are available alongside the existing aqua colour.

The violet range comprises pre-terminated assemblies and patch cords, as well as MTP and LC adaptor modules. Data centre managers can now opt for different colours for loop A and the redundancy loop B for their networks. Another option is to use different colours for

different protocols, for example, aqua for Ethernet and violet for Fibre Channel.

Discover Nexans' OM4 solutions for data centres by **CLICKING HERE**.
www.nexans.co.uk/LANsystems

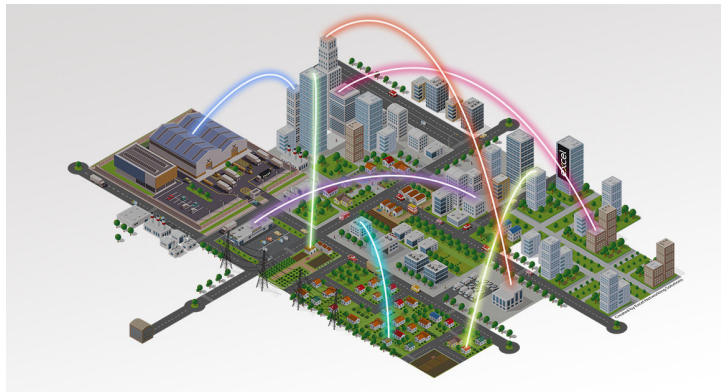


Excel Networking Solutions

Excel Networking Solutions has significantly enhanced its offering to embrace the latest developments in fibre optic technology.

To complement Excel's existing range, it has recently launched its Passive Optical Network (PON) Solution, delivering fibre to a range of environments across FTTx and POL network infrastructure systems. Regardless of the size of the building, the Excel range of PON products offers numerous options in fibre connectivity and distribution.

Each installation environment requires an infrastructure solution to provide their wired or wireless services – residential areas, business districts and multitenant environments all have different needs for



high speed connectivity, so a 'one solution fits all' approach isn't always viable.

In addition to its existing copper and fibre portfolio, Excel's PON portfolio consists of a selection of passive components suitable for a PON network, offering a complete end-to-end solution in passive optical infrastructure for a variety of applications.

For more information about Excel and the new PON Solution, **CLICK HERE** or to download a copy of the brochure **CLICK HERE**.

www.excel-networking.com

Huber+Suhner

Huber+Suhner offers CPR compliant pre-terminated cable systems – 8, 12 and 24 fibre MTP and LC assemblies.

With the introduction of CPR and specified Euroclass for installation cables within BS 6701, many users found a restricted choice of cables available. Huber+Suhner has addressed this need by adding a range of 8, 12 and 24 fibre cable systems, which are compliant with Cca-s1a,d0,a1 class (8f/12f) and B2ca-s1a,d0,a1 class (24f) respectively.

Supplied factory terminated, assemblies are available with the patented LC-XD connector, the MTP connector (8, 12

or 24 fibre), or in any combination. This addresses the need for CPR compliant single unit MTP link cables and hybrid equipment harnesses where installation is within inaccessible containment, and thus falls within scope of an installation cable.

The cable features an innovative double jacket, which reveals the smaller diameter 2mm inner cable close to the termination, helping reduce cable bulk at equipment and patching ports.

For more information [CLICK HERE](#) or connect with us at the Huber+Suhner Northern Europe LinkedIn site by [CLICKING HERE](#).

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Comtec

Comtec stocks a wide range of fibre optic product, ensuring the right mix for every installation type and specification. Our key brands include

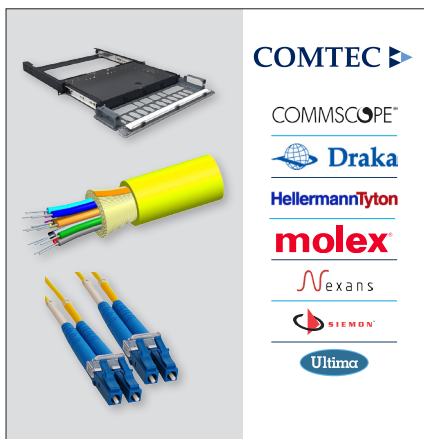
CommScope (NETCONNECT and SYSTIMAX), Nexans, Draka, HellermannTyton, Siemon, Molex and Ultima.

We hold over one million meters of fibre cable in an array of CPR specs including Eca, Dca, Cca and B2cam, with core counts from 4 fibre up to 96 fibre. Also in stock is a full range of fibre optic panels, pigtails, patch leads and accessories in multimode OM1,

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IANOS is a unique fibre management

system that is designed to accommodate a quick, simple and inevitable upgrade path from 10 Gigabit Ethernet serial to 40 and 100 Gigabit Ethernet parallel optics.

IANOS offers individual

modules that easily slide out reducing cord disruption and easing access, with each 1U chassis providing a maximum of 144 LC connections. Single or twin modules help improve flexibility, with twin modules offering improved routing space and splice handling.

IANOS chassis are available in 1U or 4U rack mounts.

IANOS is available from stock at EDP Europe.

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Inside Networks

2019 CHARITY GOLF DAY 22nd MAY

An opportunity to compete and entertain clients and colleagues at the superb Marriott Hanbury Manor Hotel & Country Club.

www.marriottgolf.co.uk/club/hanbury-manor

Indoor Simulator Competition

The cost of a 4-ball team will be £575 (+VAT).

There will also be discounted accommodation at Hanbury Manor Hotel & Country Club, which will include breakfast and use of the extensive leisure facilities. Price to be confirmed.

As in previous years – teams will be asked to provide a raffle/auction prize on the day in support of the charity.

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Playing the Hanbury Manor PGA Championship Course:

This prestigious golf course was the first to be designed by Jack Nicklaus II and still incorporates features from an earlier 9-hole course designed by the great Harry Vardon. The course is now widely recognised as one of the best in England.

The event will ask for 4-ball teams to compete in a 'best 2 from 4' full handicap Stableford competition over 18 holes (with a 2-tee start from 10:30am).

Live Scoring sponsorship available.

Golf will be preceded by tea, coffee and bacon rolls at registration and will be followed by a 3-course private dinner and prize giving with charity raffle.

There will also be opportunities for sponsorship of all aspects of the day – all raising money for Macmillan Cancer Support – since 2005 this industry event has raised over £65,000 through our charity golf events!

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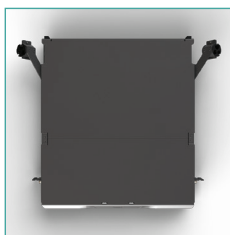
The Infinium™ HD Enclosure is an ideal solution for fibre networks in data centres and building networks. The high-density footprint accommodates up to 96 fibres in 1U of rack space and is available in 1U, 2U and 4U sizes, as well as accommodating Base-12 and Base-8 applications in the same enclosure.

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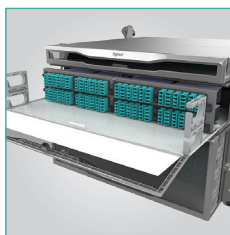
These key features are exclusive to the Infinium™ HD Fibre Enclosure:



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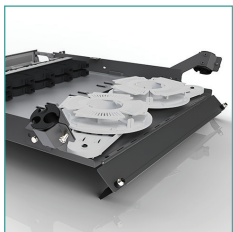
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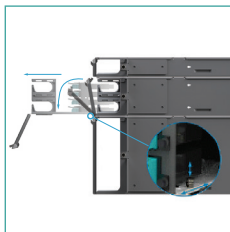
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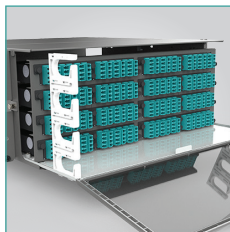
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Five alive

Tayfun Eren of Prysmian Group looks at how standardised OM5 multimode fibre technology provides a cost effective transmission medium

▶ Those who are monitoring the developments at IEEE 802.3 will not suffer from a lack of ideas about data transmission methods, as a large number of partly overlapping solutions are currently under development or already standard. Not every solution is also a commercial success though and users seem to have a 'wait and see' strategy in this environment. However, a new development can overcome these uncertainties and unlock budgets on hold – wavelength multiplex via multimode glass fibres.

TOUCHING BASE

Copper data cable, which is often regarded as being limited in its transmission potential, is currently highly popular. Not only does it expand the entire building as an IT infrastructure in LAN installations, it simultaneously feeds wireless LAN access points, links distributed building services to the network and is also used for remote powering through power over Ethernet (PoE). Such LANs are now properly designed to 10 Gigabit Ethernet (Class EA), which is standardised with 10GBASE-T

since 2006.

However, most optical building and campus networks feeding horizontal structures today are only operated on 10 Gigabit Ethernet, which has been standardised with 10GBASE-SR since 2002. This doesn't comply with the logic of Ethernet, which for a safe operation considers backbones one level faster than their access networks. That said, there is a backbone solution available and standardised since 2010, which is 40GBASE-SR4.

THE TIME IS NOW

40Gb/s transceivers are widely used today, mainly in data centre end of row installations, or for backbone



consolidation when four 10Gb/s transceivers are replaced by one 40Gb/s transceiver, which isn't increasing line speed per fibre pair. This might be economically reasonable, but technically it's a deadlock.

A hurdle might have been the need for eight fibre parallel optics with four paralleled 10Gb/s channels. Supporters of the classical two fibre topology suffer from higher complexity, lack of experience with long-term behaviour and practice with the multi-fibre push on (MPO) connection technology required. The limited link budget doesn't ease a decision. However, the time is right for a wider 40Gb/s deployment, since transceiver prices are down to a reasonable price level.

LIMITED EDITION

We cannot but accept the limits of our technological possibilities. Today, and for the foreseeable future, it is not possible to serially transmit 100Gb/s and more through a single pair of fibres. That's why we must deal with multi-lane methods combining several cascaded channels.

Instead of just adding up complete transmission paths – laser/plug/fibre/plug/receiver – there is a well understood solution for parallel routing of the optical channels into one fibre per

OM5

‘OM5 multimode fibre technology provides a cost effective transmission technology that is easier to handle due to the LC duplex infrastructure.’

solution and, moreover, using a single multimode fibre would be preferable.

In this context, WDM techniques can be used. For comparison, an OM4 multimode fibre provides a high modal bandwidth, but only a narrow wavelength range centred at 850nm, limiting its WDM capabilities. The cost effective operation of at least four WDM channels, each

direction.

This so-called wavelength division multiplexing (WDM) method has been used for 20 years in long-haul networks running at 1550nm. A recent spin-off is the WDM technology with few shorter wavelengths in the range of 850nm-950nm, also called shortwave wavelength division multiplexing (SWDM) or coarse wavelength division multiplexing (CWDM).

MODE OF OPERATION

Today, multimode fibre in the OM3 and OM4 classes are the preferred media for Ethernet and Fibre Channel applications operating at 850nm, with non-return to zero (NRZ) modulation. If the data rate is to be increased, the effective bandwidth is limited by the modal dispersion of the multimode fibre and the low vertical cavity surface emitting laser (VCSEL) bandwidth.

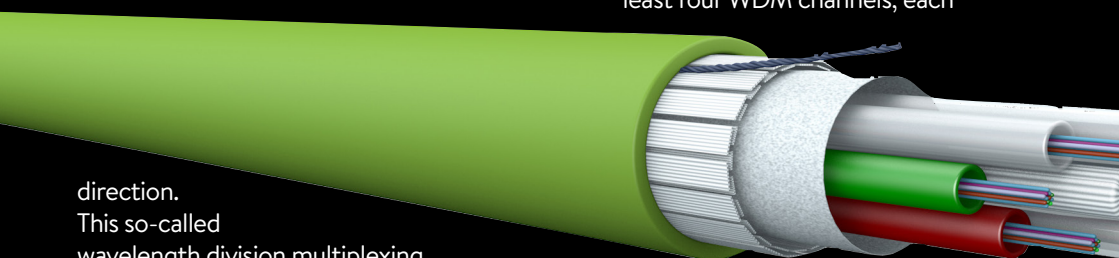
To overcome this limitation, parallel fibre links operating at 10Gb/s and 25Gb/s line speed are used to multiply the capacitance. However, this approach requires an infrastructure based on MPO. To continue the proven two fibre structures is a 100Gb/s

with 25Gb/s, requires high bandwidth broadband multimode fibre over an extended wavelength range up to 950nm. For backward compatibility, the 850nm wavelength was maintained, resulting in the operating window of 850nm to 950nm.

ON THE UP

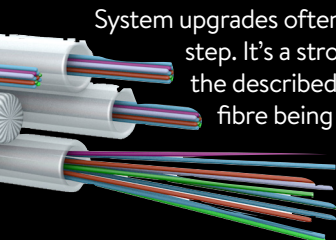
Implementing advanced modulation formats such as PAM-4 can further increase SWDM capacity. In the laboratory, 200Gb/s transmission over an OM5 fibre pair with four PAM-4 WDM signals was successfully realised over 300m link length. This was addressed by IEEE 802.3cd study group, which concluded its work in December 2018.

Some users are concerned that the SWDM technology in the transceiver leads to a lot of additional costs. A quick comparison shows that the essential cost elements hold the balance between the variants like, for example, lasers and PIN photodiodes or driving electronic. In this



context, the first commercially available SWDM transceivers are of interest. They extend not only the transceiver selection by a decent number of variants, but already allow at 40Gb/s and 100Gb/s speed level, maintaining two multimode fibre infrastructure with the proven LC plug.

There are already users whose planning horizon reaches up to 40 Gigabit Ethernet and beyond, however, most applications are backbone switch-to-switch installations.



System upgrades often take place step by step. It's a strong advantage of the described OM5 multimode fibre being fully backwards compatible with all previous multimode fibre generations ranging from OM2 up to OM4, not imposing any other requirements to its connecting hardware than the conventional ones. This allows the OM5 multimode fibre to efficiently migrate existing 10Gb/s networks to cost efficient 40Gb/s and 100Gb/s implementations and further up to 200Gb/s. At the same time, OM5 multimode fibre is recognised by IEEE 802.3 as next generation multimode fibre and is supported in case of upcoming network standards.

NOW AVAILABLE

There is no alternative to multimode fibre to those who cannot ignore the costs of LAN and data centre network backbones. OM5 multimode fibre technology provides a cost effective transmission technology that is easier to handle due to the LC duplex infrastructure. It is a standardised multimode fibre at IEC and TIA, defined as OM5 cabling class in the latest revision of

ISO/IEC11801:2018 and already available in commercial products. ■



TAYFUN EREN

Tayfun Eren is a global product manager for fibre optic cables in the Multimedia Solutions Division at Prysmian Group. He has worked in technical sales in the UK and as part of the graduate program in Germany at Prysmian Group in the past. Prior to Prysmian, Eren worked at Infineon Technologies and at Siemens (Siemens Placement Division).

Preconfigured cabinet R&M – built in connect

Oli Barrington, **R&M's** managing director UK and Ireland, explains how the company's preconfigured cabinets have connectivity built into the cabinet structure and are pre-cabled, pre-labelled and ready to use

▶ Many IT departments see layer one and layer zero in the data centre as an amorphous collection of widgets – a necessary (and costly) evil required to make systems work. Organisations are generally reluctant to spend money and 'mind space' on this. That's why they often only do so when they run in to difficulties.

Real life

In reality, this amorphous collection of widgets is – or should be – made up of multiple highly engineered systems that power, cool, connect and protect business processes. What's more, these systems offer businesses real opportunities to reduce operating costs, build in agility and streamline MACs throughout the facility's lifecycle. Ultimately, they can bring real and tangible benefits.

However, it's easy to see why organisations postpone upgrading layer one and layer zero services for as long as possible. Disruption, risk, cost and

the need for multiple skill sets are all deterrents. For many IT managers, it's that one task that lurks on the 'to do' list – a can of worms that sooner or later will have to be opened.

Solution provider

R&M has recognised this – and is now able to provide the market with a solution. Primarily aimed at enterprise, on-premise

data centres, R&M's preconfigured cabinets have connectivity built into the cabinet's structure, offering 188 10Gb/s or 96 40Gb/s connections.

These don't require any valuable rack space and importantly, using MPO connectivity – all internal cabling is configured in the factory. Upon positioning in the data centre, inter-cabinet MPO trunk cables need only be plugged into

the cabinet's connectivity ingress cassette to link all 10Gb/s and 40Gb/s connections to the core network. An optional rear door heat exchanger that removes up to 45kW of heat is available and overhead pathway containment for both copper and fibre



Oli
Barrington

s from tivity

fixes directly to dedicated supports on the cabinet's top cover.

Benefits

- Density and performance optimisation
- Reduced cabinet space, floor space and labour costs
- Deployment in hours rather than days
- Integral cabling according to best practices
- Multiple LAN and SAN architectures and protocols supported
- Multiple connection types supported – Category 6, 6a, 7a, 8 copper and OM3, OM4 and OS2 optical fibre
- Enhanced physical security
- Shorter patch cords – maintains tidiness within cabinet
- Optimised airflow minimises energy consumption and risk of heat related outages
- Reduction in required skills on site
- No pathway systems suspended from the ceiling
- Predictable design metrics make it easier to budget for growth
- Replicating and rerouting switch ports is easy
- Simplified connectivity for integrated and non-integrated switching fabrics
- Enables massive density of servers,

network and storage hardware

- Suitable for HPC environments
- 86 per cent airflow optimising delivery of cold air to IT
- Reduced energy costs

Features

- Integral preconfigured, pretested copper and fibre cabling infrastructure
- High-density zero U cabling system
- Raceway and basket attach directly to the top of the cabinet
- Colour coded, numerical labelling
- 1550kg load bearing capability
- Perforated, lockable, curved steel front and rear doors
- Energy efficient cooling

To find out more call +44 (0) 203 693 7595 or **CLICK HERE.**
www.rdm.com



Excel Networking Solutions now available in the USA

Excel Networking Solutions' products are now available in the USA, through a distribution agreement with Sonepar USA.

Paul Mills, Excel's director of sales for North America, said, 'We are delighted to bring Excel to the US and we believe the partnership with Sonepar USA, through its operating companies Codale, OneSource Distributors, Viking Electric Supply, World Electric Supply and Cooper Electric Supply, will provide a great quality and innovative solution, delivered through an experienced and professional distribution channel. To start, we will focus on the Category 6



and 6A Copper solutions and, over time, we will introduce a wider range of products.'

The company has also announced that its Excel Cabling Partner (ECP) Certification Training Course

has been recognised for four BICSI Continuing Education Credits (CECs). The Excel Partner Programme includes the ECP status, which comprises organisations that are experienced providers of design, installation and testing services for the entire range of Excel passive copper, conventional, pre-terminated and high density MTP optical fibre solutions.

Rittal extends executive management team

Uwe Scharf has been appointed managing director of the IT and industry business units and for marketing at Rittal.

Scharf joined Rittal in 2001 and upon the announcement of his new role, Karl-Ulrich Köhler, CEO of Rittal International, stated, 'We are pleased to be able to make an internal appointment for this management position.

Uwe Scharf has outstanding experience in business development and in managing products and one-stop solutions.'



Scharf commented, 'I am honoured that

Rittal has chosen to expand my responsibilities, and trusts me to contribute in this way. As a leader in innovation, we are passionate about continuously improving the Rittal portfolio. This enables us to actively support our

customers with digital transformation, the implementation of effective, value creation processes, and more.'

New ownership for Ideal Networks to accelerate innovation and growth

CBPE Capital has acquired a majority ownership position in Ideal Networks. CBPE is acquiring the business from Ideal Networks' former parent, Ideal Industries, and will be investing alongside the incumbent management team.

The management team involved in the acquisition includes chief executive officer, Paul Walsh, chief finance officer, Scott Paterson, development director, Peter Kent, operations director, Russell Stratton, and marketing director, Tim Widdershoven.

Walsh commented, 'We are delighted to be working with CBPE and look forward to



establishing Ideal Networks as a successful, independent market leader. With CBPE, we are confident that we have found a partner that will provide valuable input as we pursue our exciting growth plans.'

He added, 'Business will continue as normal across the world with no interruption of supply through our distribution partners. Customers will continue to receive the outstanding service they have come to expect, and product names will remain unchanged. What will change is our ability to respond even faster to market needs through innovation and we will see the company brand evolve over the coming years, but not straight away.'

CHANNEL UPDATE IN BRIEF

Nimans' head of dealer sales, Tom Maxell, has become the inaugural winner of a special award in memory of the company's founder, Julian Niman. Maxell is the first recipient of the Julian Niman Award for his 'outstanding contribution', dedication and loyal service as part of a 30-year career with Nimans.

Lancom Systems has appointed Michael Müller as vice president, Wi-Fi and switches.

Lantronix has announced the addition of new channel relationship with Ingram Micro, supporting the Asia Pacific & Japan (APJ) region. Ingram Micro will provide advanced logistics, product delivery, and distribution services for the Lantronix external IoT device gateways and IT management solutions.

Nextgenaccess has appointed Bob Falconer as non-executive director.

Harting and Heilind Electronics have entered into a global distribution partnership. The agreement follows a successful partnership in North America and in other countries worldwide.

Quickclicks

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

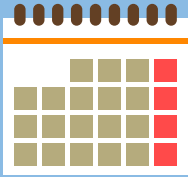
Who Are the Real Customers For the Network Edge? is a blog from **Verviv**.
[CLICK HERE](#) to read it.

An Underwater Data Center: Gimmick or Look Towards the Future? is the question posed in a blog from **Raritan**.
[CLICK HERE](#) to read it.

Panduit has published a new white paper titled Light into Money – The Future of Fibre Optics in the Data Centre Networks.

[CLICK HERE](#) to obtain a copy.





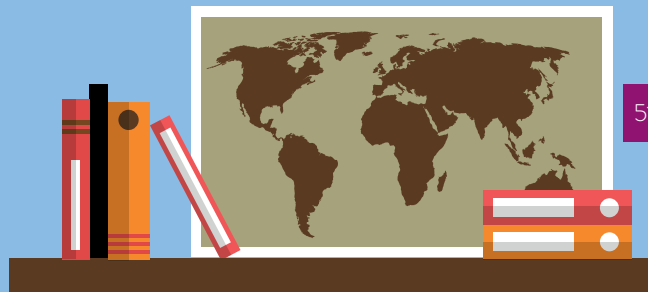
Nexans has produced its Earthing Guide for Structured Cabling Systems.

CLICK HERE to download a copy.

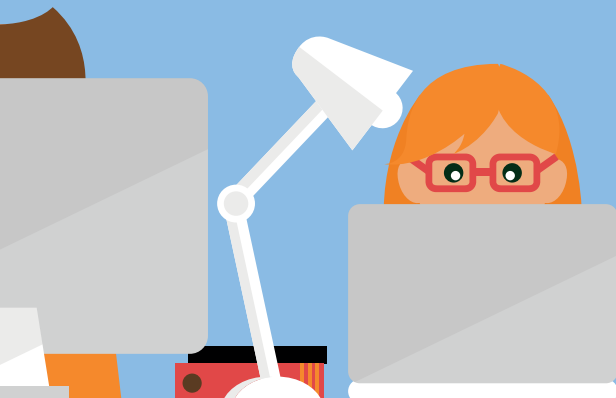
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Are You Positive It's Negative? is a blog by Mark Mullins of **Fluke Networks**.
CLICK HERE to read it.

What's Old is What's New Again – Liquid Cooling Servers in Data Center Design is a blog by Steven Carlini of **Schneider Electric**.
CLICK HERE to read it.



A New Acronym To Remember is a blog from Simon that examines the Modular Plug Terminated Link (MPTL).
CLICK HERE to read it.



Forward motion

The way people and teams learn is evolving and technology is introducing more innovative and accessible ways to expand knowledge, as **Sarah Parks** of CNet Training explains

▶ Of course, there isn't a 'one size fits all' solution for education and professional development, as different subjects lend themselves to different approaches to learning.

HIGHS AND LOWS

Lower level programs are often skills based courses where individuals are trained to undertake repetitive tasks.

Here a watch and learn approach is adopted, where tasks are replicated until learners can replicate it themselves. Some subjects can utilise video or animation that can be

watched several times, whilst others lend themselves to virtual reality. The chosen method of watching and learning is best determined by the complexity of the tasks, how essential it is to have a real-time 360°

'The most essential factor to consider is the quality of the training and education you will be receiving. Consider the company who will be delivering the learning – their reputation, longevity and experience in the market and the feedback they receive.'

view and the ability to ask questions as you watch.

In contrast, other higher level programs, such as master's degrees, require an element of self-discovery over time through research, reading, argument development and critical analysis and thinking. Yet many misunderstand the landscape of learning at this high level and find it difficult to comprehend the different ways of developing and harnessing new ways of thinking.

TECH TALK

This is particularly pertinent for those who have come from a technical background, where they have progressed into a role

gradually learning as they go, which is often the case in the data centre sector. However, as the data centre sector continues to mature, there is a need to recognise that the very nature of work is





the future, where traditional notions of management and organisational effectiveness are, and will continue to be, thoroughly tested.

FLEXIBLE LEARNING

Whilst technology is leading the challenge to traditional management, it also creates many opportunities to make learning more convenient, more accessible and more appealing at all levels.

evolving,
which
is impacting
organisational
structure and shifting
managerial perspectives.

Behaviours, values and capabilities of leaders are being challenged as a result, and the need to adopt a habit of continual learning and development is imperative for leaders and managers in the data centre sector. Skills need to be refined to research new and novel approaches, while leaders and managers looking to be effective must learn to tap into these skills. It's not something that happens by chance or via typical vocational or technical methods seen in traditional training programs. It's developed over time through higher level learning and education.

It is also vitally important that time is allocated to explore, absorb and apply material for the development of new knowledge, not just technical acumen. Data centre leaders who have the capability to innovate in their thinking and learning approaches are much better placed to carry that through to meeting the demands of industry today and in

• Remote attendance

There are various forms of remote attendance learning available. Some simply provide details to join an online meeting that allows you to see and hear an instructor or teacher. Others are more sophisticated and allow you to join a place based classroom with other learners sitting in the actual room. Here, remote attendees log in to effectively sit in the same classroom and are visible to all others via a large screen. There are usually several camera angles available to allow learners to choose the best camera angles for them and change them as needed.

Audio devices also allow any of the learners to speak to everyone else, providing clarity by muting the microphones of others when one person is taking, allowing a conversation to take place involving all. Additionally, remote attendees can often take part in group activities via virtual breakout rooms, combining those in the classroom with the remote attendees. There are many advantages to remote attendance over and above the saving of travel time and the costs associated with accommodation and subsistence.



• On-site programs

Here, the professional instructor delivers the educational program to multiple people from the same organisation at their place of work, at the same time. This is the ultimate convenience for the learners and ideal if they can escape the distractions of their day-to-day work whilst at their workplace. It also encourages team discussion and teamwork, as colleagues can learn and innovate together.

• Place based classroom

This involves attending an actual classroom with a program delivered by an instructor, with many other learners in the same room. Some argue that being away from the workplace allows more creativity and free-flowing thinking, while others prefer to learn in their workplace, where they can bounce ideas around with colleagues as they learn, which can further help enrich the learning experience.

However, with place based classroom learning there is the added benefit of not knowing who else will attend. This can add a further dimension to the learning as you can share ideas and experiences from

others in the sector within similar roles.

• Distance learning

This is the ultimate flexible learning, where material is accessed online, allowing the learning to be undertaken asynchronously – when and where it is convenient. This approach does take focus and motivation, as it is all too easy to push the flexible element too far and procrastinate. Secrets to success with distance learning include ensuring you dedicate time by creating a routine and adhering to it, having a quiet place to learn without the distractions of family or work life and using your dedicated online tutor support when available.

• Blended learning

Blended learning is an approach to education that combines online pre-class study with place based classroom learning. This could involve the support of an online tutor during pre-class study in readiness for attending classroom sessions. Blended learning is ideal for those who do not fully enjoy distance learning, as it provides motivation and a deadline to complete

the online study, and the ability to discuss new learning with others and an instructor during the classroom sessions.

SELECTION PROCEDURE

The chosen method of learning is of course dependant on availability within the relevant subject matter, however, there are other factors to consider.

A good starting point is to look at workloads and patterns of work. When is there free time to dedicate to learning? Could you take time away from work to dedicate a set period to learning, or are you only free evenings or weekends? How can you learn, what appeals the most? Do you prefer to learn on your own or within a team comprising colleagues or a team comprising other industry professionals, which also creates networking opportunities?

How easily are you distracted and what distractions could you experience? This could be in relation to home or your workplace and could help you to decide if place based classroom learning is best for you, so you can be dedicated to learning in a professional learning environment. Are you able to travel? This can instantly rule out some place based classroom learning allowing focus on remote attendance, distance learning or perhaps on-site learning. Finally, who is paying and how influential are they regarding the method of learning?

ESSENTIAL CONSIDERATIONS

The most essential factor to consider is the quality of the training and education you will be receiving. Consider the company who will be delivering the learning – their reputation, longevity and experience in the market and the feedback they receive. Testimonials say a lot, however, it is worth

remembering that there is increased sensitivity around this due to the updated data protection laws, so using testimonials alongside other criteria is a must. Obvious elements to look for are the company's own credentials, is it accredited by professional associations, and is it certified itself for quality management, for example, ISO 9001? Plus, are the outcomes of learning useful and do they provide official recognition such as qualifications and certifications? ■



SARAH PARKS

Sarah Parks is the director of marketing and communications at CNet Training. She has worked with the company for over 15 years and has over 20 years of marketing experience with the technology and other sectors.

Mayflex

The Mayflex Academy provides customers with access to certified vendor training courses in a professional training environment. Each delegate conducts their training session at a fully equipped individual workstation, which incorporates relevant vendor products.

Each course is delivered by our own training instructors and managers, who are fully qualified after undertaking rigorous vendor training courses, which have all been completed to their own high standards.

Delegates are advised of their success rate for each course attended, along with constructive comments on individual

performance. Instructors work closely with vendor partners to ensure the courses delivered contain content on the

latest product and technology updates.

All Mayflex Academy courses are currently delivered at the Mayflex headquarters in Birmingham and City of London offices. Courses

currently available are from vendor partners including Avigilon, Excel, Dahua and Paxton.

To review the list of training courses available [CLICK HERE](#).
www.mayflex.com



CNet Training

CNet Training has released new industry approved technical education data centre programs.

The new and upgraded high level programs utilise advanced teaching methods that allow the classroom learning to be undertaken in five days. This new 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 audit data to verify the status of the data centre.

To find out more [CLICK HERE](#).
www.cnet-training.com

Networks Centre

Beat the skills shortage and upskill at the Networks Centre Training Academy, which offers the latest industry leading courses.

Our new and spacious fully equipped facility provides the framework for individuals to progress within data centre and network infrastructure industries. With experts on hand to help and advise, we are the most reliable source for delivering quality and technical excellence.

We are Europe's only BICSI Authorized

Design Training Provider, offering the BICSI RCDD, DCDC and Cabling Installation Program courses, which are recognised and required by many organisations globally.

To find out more and to book any of the courses [CLICK HERE](#), and receive a 10 per cent discount by

quoting TRAINING10.

Call Networks Centre on 01403 754233 for more details.

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NetworksCentre. Training Academy

Fast Lane

Fast Lane is committed to delivering the highest quality training on the hottest technologies. Our courses offer a personal approach to learning with vendor certified Instructors and the latest equipment available in the classroom. We pride ourselves on delivering a unique training experience that goes above and beyond the standard course materials.

Fast Lane has a number of industry leading experts that are always on hand to help you design, implement and troubleshoot the very latest data centre technologies.

Working closely with our specialists we

can specifically tailor the training to suit your requirements, which can be either delivered on-site at your location or at one of our state-of-the-art training facilities.

Fast Lane also provides a whole range of authorised cloud, virtualisation and data centre courses. Enhance your skills and abilities to design, install, and support a data centre networking solution. Data centre certifications can enhance your technical skills, confidence and the value you bring to your IT department.

To find out more [CLICK HERE](#).
www.flane.co.uk

The screenshot shows the Fast Lane website with a red header. The navigation menu includes Professional Services, Company, Training, Blog, News, and Contact Us. A search bar is located in the top right corner. Below the navigation menu, there is a section for Professional Services with a list of links: NEW: Fast Lane Services, Skills Assessment, Cisco DNA, Cisco SDA, Cisco SD-WAN, Technology Adoption, Expert-4-Hire, Gigamon Consulting, Google Cloud Services, Microsoft Cloud Solutions, Microsoft LaaS, and Content Development. A banner for Cisco EMEAR Learning Partner of the year 2018 is displayed. Below the banner, there is a section for Consulting and Education Services with a paragraph about their training programs.

Fast Lane

0845 470 1000 / enquiries@flane.co.uk

Professional Services Company Training Blog News Contact Us

Professional Services

- NEW: Fast Lane Services
- Skills Assessment
- Cisco DNA
- Cisco SDA
- Cisco SD-WAN
- Technology Adoption
- Expert-4-Hire
- Gigamon Consulting
- Google Cloud Services
- Microsoft Cloud Solutions
- Microsoft LaaS
- Content Development

Palo Alto Networks New 8.1 Training Courses

Cisco EMEAR Learning Partner of the year 2018!

Consulting and Education Services

Turn your career goals into a reality with advanced technical solutions that will advance your knowledge. Fast Lane offers leading technical training for some of the top technology vendors including Cisco, NetApp, Microsoft, VMware and more. We have a large number of high quality instructors that have trained students worldwide through our multiple IT training delivery methods.

Competitive edge

Andy Hirst of Sudlows explains how a well trained, engaged and highly skilled workforce can ensure that work is carried out to the highest standards, and why the mission critical environment must develop a new generation of specialists

▶ Providing technical design and construction services for a range of mission critical facilities and data centres offers clients a full turnkey solution. However, in order to deliver these unique services it is important to train and develop a broad spectrum of multi-skilled engineers – from mission critical mechanical and electrical (M&E) designers through to project managers and commissioning engineers, and everything in-between.

ROLE PLAY

In this competitive market, with its well publicised skills shortage, filling these roles is no easy task. Therefore, unless qualified engineering specialists from within this sector are recruited, a significant element of in-house training will be necessary. Elements of such in-house training will always be required though, for even though many electrical engineers have vast experience from outside the sector, they may have never worked in a mission critical environment and would still require a degree of further training.

For example, a design engineer may not be aware of the TIA-942 or Uptime Institute requirements that a client has specified as an essential part of a project

delivery. All of this upskilling and training requires a substantial internal investment, which the organisation needs to see the value of.

DANGER ZONE

Unfortunately, this level of investment in skills development and training comes with a high degree of risk. After the investment and time into training has been made, an engineer suddenly becomes a much sought-after resource by industry competitors and suppliers. So the key, after such a major investment is made, is to effectively utilise these skills. There is simply no point in upskilling an engineer in UPS installation, for example, and then letting them just pass the spanner to a long standing senior engineer who will be retiring in two years!

Something else to be considered after an engineer is upskilled is how this is illustrated to the client in order to give them the additional confidence and reassurance that the engineer has a strong understanding of the mission critical environment.

It is therefore vital to ensure the client has visibility of the senior project engineer's CV, if required. Promoting their registration as a chartered engineer



and organising in-house mentoring and support from independent governing bodies, such as the Institute of Engineering and Technology (IET), also makes sense where necessary.

GUIDING LIGHT

A set of practical guidelines is well worth having in place, as is drawing on existing experience. Although the mission critical sector has an aged workforce, which is sometimes viewed negatively in terms of innovation, it comprises outstanding technical specialists with years of experience. The key is to tap into this wealth of experience in order to mentor and upskill the younger generation coming through. The only stumbling block is where is this next generation coming from?

The mission critical environment is a sector that is continually developing new technologies over multiple disciplines, yet

whenever I attend educational and training institutions such as universities – whether it is via recruitment fairs or to meet young engineers – it is an unfamiliar sector for most.

POOL OF TALENT

At Sudlows, two of our most successful associate directors were recruited from university – one was specialising in robotics and we had to demonstrate the depth of technology that was being used in data centres before he accepted the position. Several years on, he is passionately developing new technologies to improve efficiencies in these facilities and has never looked back.

Maybe promoting gender diversity might unlock a wealth of talent that has been overlooked. Although all engineers should be recruited on merit, are educational establishments doing enough to highlight



‘Failing to recognise the importance of training and incorporate upskilling will result in a lack of skilled workforce and staff retention within the mission critical sector.’

that engineering, in general, is gender neutral and not as male-centric as it has possibly been portrayed?

HOLDING ON

Once we have identified an individual and they have been recruited and upskilled, the key issue is to then retain them. New engineers need to be continually developing their knowledge and innovating. To assist with this, we have support from some of our industry manufacturers and partners, where we encourage our engineers to work alongside them to help develop and understand some of the technologies.

This innovation is one of the reasons why Sudlows stays vendor neutral, as it is

important to look at the different types of technology available and not get labelled as just a reseller of one particular product. It is also important to have knowledge of multiple products within each discipline, as one solution does not necessarily fulfil the client’s brief.

For example, if it is efficiency over resilience or footprint over budget, the solution will always be different – therefore, an experienced designer or installation engineer should have knowledge of the alternative solutions available. Although this could be considered excessive investment by the business, the value it gains in terms of client confidence is priceless, as the client is more reassured that they are receiving

the best facility available.

WORK IN PROGRESS

In a sector that relies on innovative technology that is continually evolving and developing, keeping up-to-date with the latest in research and development can be time consuming and in itself require

60



investment.

We have a programme with the majority of our manufacturers to carry out internal continuing professional development (CPD) along with regular technical updates, such as 'lunch and learns', which are scheduled regularly so all engineers are first to see the latest technologies, ensuring that when these are discussed in client meetings they are technically factual and not just used as sales pitches.

Every organisation has its own method of recruitment and training. Failing to recognise the importance of training and incorporate upskilling will result in a lack of skilled workforce and staff retention within the mission critical sector.

This will always have a knock on effect to the quality of this critical facility, yet due to the profile of the data centre sector not being very well marketed within the university sector, this issue will continue.

If this does continue then maybe it is up to organisations that operate within the industry to help solve this problem and promote this essential and dynamic sector. If not, then when the present data centre generation of experts begins to retire we may find that we have a large void between the engineers requiring upskilling and the absence of the experts present to teach.

CAUSE FOR CONCERN

The concern with this is that even if the sector raises its profile it is potentially a decade before the benefits filter through and a new generation of specialists are introduced into the mission critical environment. What we cannot do, given the current skills shortage, is simply settle for second best, as this will compromise the quality of facilities and client relationships and certainly impact on company reputation. Recruiting the

right type of engineers and correctly upskilling them into their specialism within the mission critical environment and continually investing in them is a long-term objective that will have a commercial impact on the business, but must happen to ensure success and future growth. ■



ANDY HIRST

Andy Hirst is managing director of Sudlows' Critical Infrastructures division. With over 30 years' experience in the M&E environment, he heads up a team offering high quality, effective and innovative designs for critical infrastructure projects.

Scale Computing gives Genting Casinos the edge

Genting Casinos has selected Scale Computing's HC3 platform for edge deployment

across 42 distributed sites.

The company chose Scale Computing's HC3 platform because it was finding it difficult and complex to manage the sites, each of which had its own IT environment

consisting of three HP servers and VMware. In addition, the casinos were vulnerable because there was no business continuity or resilience.

By combining servers, storage, hyperconvergence, virtualisation, data protection and data replication into one

single and easy to use platform, Scale Computing's HC3 platform delivers the

simplicity, scalability and availability required for the distributed enterprise.

Genting Casinos has also benefited from HC3's added business continuity and data resilience



capabilities. Cloning, replication and snapshot features give the company peace of mind, with the ability to recover quickly and effectively. Native built-in replication helps to protect all the sites without the need for an additional disaster recovery solution.

Extreme Networks helps ArcelorMittal improve IT performance across Europe

ArcelorMittal is undergoing a number of digitalisation and Industry 4.0 efforts to continue its growth and support the wide range of industries – from manufacturing to construction – that rely on its products. With this in mind, it identified the need for a robust, reliable and high performing IT network to make this possible.

Extreme Networks and NPS Consult worked with ArcelorMittal to implement a new network solution incorporating wired and wireless access for over 1,300 users on 2,500 devices across London, Brussels and Luxembourg. These three European hubs are central to ArcelorMittal's European global operations and are all now

routed through a single, highly reliable system providing improved network visibility, security and access to strategic applications. The introduction of the high speed network is ideally suited to support the company's digitalisation efforts.

The new system is based on Extreme Networks' Smart OmniEdge Solution that uses the power of artificial intelligence (AI) to deliver a consistent, high quality user experience. The inclusion of Extreme Management Center and new data centre equipment in Luxembourg provides a centralised platform for sites around the world to be managed by a single team, improving overall operational efficiency.

Secure IT Environments builds new data centre at the heart of Wrexham Maelor Hospital

Secure IT Environments has completed a new 120m² data centre at Wrexham Maelor Hospital, part of the Betsi Cadwaladr University Health Board (BCUHB), which provides a full range of primary, community, mental health and acute hospital services for around 676,000 people.

The new data centre has been designed to provide the level of resilience expected from a primary data centre in an NHS setting, with multiple independent



infrastructure paths, redundant cooling and dual power sources.

Maintenance and component upgrades can also take place in the live environment through the use of infrastructure pathways and other redundant hardware.

Secure IT Environments will be providing full maintenance and support services to the new data centre, which has an internal footprint of 12x10m, for the next three years.

PROJECTS & CONTRACTS IN BRIEF

Equinix has closed a transaction for the purchase of a commercial building at Vierenkamp 1, Hamburg, Germany. The company has also announced the expansion of its global footprint to South Korea with its new International Business Exchange (IBX) data centre in Seoul. Called SL1, it will provide interconnection and colocation services to businesses in support of their digital transformation initiatives and adoption of cloud.

Keysource has been appointed to deliver a range of IT infrastructure projects around the world for a major insurance provider. It will provide critical services to data centres in Finland, Germany, Italy, Luxembourg, Norway and Spain, as well as to locations in Asia and Africa, as part of the contract.

Arena Flowers has selected Comms365 to provide a reliable and fast internet connection to its temporary warehouse during its peak season.

ADVA's ADVA FSP 150 with ConnectGuard Ethernet encryption technology is being used to safeguard the data of one of Mexico's largest financial trading institutions. Installed by ADVA's Elite partner PSS, the secure connectivity solution provides the financial institution with end-to-end encryption across its Layer 2 virtual private network (VPN).

Wirral Community NHS Foundation Trust is benefitting from Yellowfin technology to drive efficiencies across its organisation, streamlining its meetings structure and gaining access to real time data and statistics.

HellermannTyton

The flat Angled Module patch panel from HellermannTyton is a 1U panel that presents 24 keystone jacks at a 45° angle. The panel can be used in a shielded or unshielded system and accepts all HellermannTyton keystone jacks including Category 6A and Category 6 shielded along with unshielded jacks in Category 6A, Category 6 and Category 5e.

The panel has been designed with 12 ports dressed to the left and 12 ports

dressed to the right. The 45° angle allows patch leads to be routed out to the side management within the cabinet, reducing the need to use additional cable managers and maximising rack space and port density. The 45° angle also protects the patch lead cables providing optimum bend radii for high performance.



CLICK HERE to find out more, call 01604 707420 or to send an email

CLICK HERE.

www.htdata.co.uk

Rittal

Rittal has developed four compact power distribution units (PDUs) for professional power distribution in IT racks, which will halve the time a system takes to assemble, compared to screw-in PDUs. The systems employ snap-in technology so not only are they very quick and easy to assemble, there is also no need for tools.

- The PDU basic provides a robust and compact basis power distribution for the IT environment. The insert strip is easily connected and is immediately functional.

- The PDU metered variant has an internal

web interface and an Ethernet port so performance data on an entire IT rack can be cost effectively monitored.



- The PDU switched model builds on this functionality, allowing the user to turn individual output slots on and off via the web interface.

- The PDU managed version takes this one step further. It has been developed specifically for use in high end

IT racks and offers power distribution with power measuring and monitoring functions for each individual output slot.

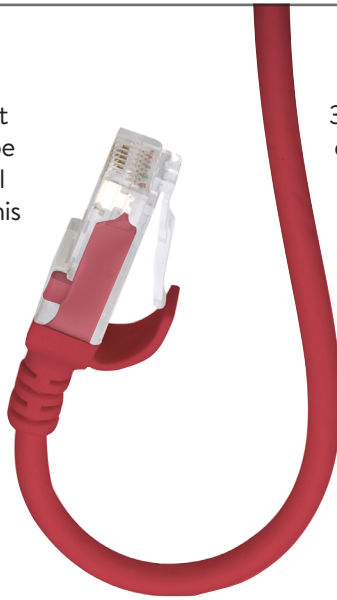
For further information **CLICK HERE.**

www.rittal.co.uk

Leviton

Leviton's eXtreme High-Flex Cat 6 Patch Cords are designed to be used in 1Gb/s applications and all frequencies from 1-250 MHz. This flexible, high density patching option reduces patch cord density in a 24-port patch panel by 38 per cent, when compared to typical Category 6 patch cords.

The patch cords are available in seven colours and a wide range of lengths up to 15m. Their narrow



3.8mm outside diameter reduces airflow obstruction and maximises cable management capacity.

CLICK HERE to learn more about the eXtreme High-Flex Cat 6 Patch Cords and eXtreme enhanced category rated systems.

www.leviton.com

R&M

R&M has expanded its R&MhealthLine range of hygienic solutions. Silver ions in the surface of plastic parts inhibit the growth of bacteria and microbes, reducing bacterial contamination on the surface of protected components between normal cleaning cycles.

R&MhealthLine helps to minimise unintentional contamination with bacteria from the product surface when touching cabling components. The antimicrobial cabling program is used in all institutions and

areas in which hygiene is a top priority, such as hospital patient rooms, operating theatres, labs, nursing homes, washrooms, waiting rooms, catering facilities,

laboratories and production facilities for food and pharmaceuticals.

Three new outlets in the R&MhealthLine program make it easier to use the R&MhealthLine system in various

applications. In addition to outlets and mounting plates with RJ-45 sockets, the R&MhealthLine also comprises shielded and unshielded patch cords, protective caps and coding elements. These are compatible with the R&Mfreenet modular cabling



system that covers all areas of structured building cabling.

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

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The voice of reason

Peter Majeed of Delphix explains why the human voice is the next generation of data

▶ There is an old inspirational quote that goes, ‘There are three things in life that you cannot recover – a word once it is said, the moment after it is missed and the time after it has gone’. But the author may not have imagined a world where technology captures an ever-increasing volume of our words. When someone leaves a message, talks to staff in a call centre, or logs onto a conference call, they are generating voice data – millions upon millions of hours of it. There is an immense amount of potential value in that data, and yet the majority sits idle in today’s enterprises.

MODEL BEHAVIOUR

So, why aren’t companies already leveraging the wealth of potential available to them, and instead choosing to leave it abandoned and untapped? Voice data

is much harder to secure, deliver and analyse than ‘traditional data’, and it is harder to gather clean and representative data to build usable models from it. But companies should not be deterred – those that overcome the challenges will reap the rewards from this new frontier.

In today’s connected age, the chatbot may have passed its sell-by date, but conversational artificial intelligence (AI) – interacting with computers via speech – is visibly on the rise. It is now the case that 20 per cent of Google searches are made via voice control. Furthermore, as the number of Internet of Things (IoT) enabled platforms grows, so does the number of speech interfaces that can interact with them, such as smartphones and cars.

This goes beyond just speaking with machines – human-to-human interaction can also make up part of this revolution,

'It is now the case that 20 per cent of Google searches are made via voice control. Furthermore, as the number of Internet of Things (IoT) enabled platforms grows, so does the number of speech interfaces that can interact with them, such as smartphones and cars.'

an advantage to already established data companies. Apple, Google, and Facebook often have a monopoly over

such as customer service calls or interactions with healthcare providers. Some organisations are already using this form of AI technology to detect fraudulent claims. This, however, is only scratching the surface of the potential of voice data. One day we may be able to mine call centre data to try and predict which customers are most likely to buy what product and even deliver real time customer satisfaction metrics.

SPEAK UP

There are a variety of challenges that come from attempting to analyse and understand voice data. The principle issue facing those who want to get the most from the wealth of voice data their company sits upon is ensuring access to quality data. It has been estimated that data scientists can take up to 80 per cent of their time just acquiring and cleaning up their data.

But even once the data has been cleansed and organised, this does not necessarily mean the data is sufficiently diverse, potentially resulting in data bias. Voice data brings about a whole new spectrum of data bias. For instance, an algorithm trained with male voices from Manchester will likely have difficulty understanding a female voice from Glasgow.

Challenges like this often result in the proliferation of 'data capitalism', providing

this complex form of data, whilst smaller organisations scramble around to find sufficient data.

There is a silver lining in this evolving technology space, however, as large conglomerates develop open source software libraries. Google's TensorFlow, and AudioSet, (an ontology of over two million individual audio files), and YouTube's YouTube-8M (which offers 450,000 hours of video that has been classified and labelled) allow smaller players to build upon these foundations.

REGULATORY ROADBLOCKS

The quality of the data we use isn't the only challenge. Regulation can also prove to be a roadblock to accessing this precious information. Data redaction will have to meet necessary compliance regulations and ensure the secure



delivery of data across the enterprise.

The General Data Protection Regulation (GDPR) has now been in effect for some time, and whilst organisations are familiar with the requirements and impact of not being compliant, many are still in the midst of understanding and putting in place processes and policies. Increasing pressure on companies to protect personal identifiable data, with the threat of heavy fines for non-compliance, has resulted in companies focusing on production data management and protection. However,

all organisations have a wealth of non-production data that is not as securely managed or protected as their production data.

REASON BEING

One of the reasons for overlooking a company's non-production data is that the comprehensive security measures can come at a high price and prove very complex to implement company-wide, especially when dealing with such a complex form of data.



However, working with modern masking solutions that have inbuilt data profiling capabilities, which can sift through large amounts of data to detect sensitive information, will help businesses manage their data privacy processes more efficiently. High end masking solutions will take this one step further and recommend masking algorithms in order to streamline and accelerate the process of securing data.

Extending this to voice data simply becomes the next step in any organisation's data strategy. Organisations hoping to tap into the potential of voice data must carefully consider the ways in which they will provide secure access to this information across their business.

MAKE A MOVE

Emerging technologies such as voice activated devices, AI and machine learning are constantly opening up new opportunities for organisations to innovate and be competitive in their industries. Early adopters will gain the advantage today if they are able to set the right foundations and framework in place to manage and secure the data fuelling these emerging technologies.

Now is the time to be building on the basics, with the right data platform and tools, to establish where data is stored company-wide, and ensuring that those who need the data have fast and easy access to it.

TIME AND EFFORT

Leveraging voice data can provide extraordinary advantages to businesses. In order to reap the benefits, businesses must invest time and effort to ensure the right practices and procedures

are in place. By building out a framework to manage and secure data using both processes and tools to do so, they can build a strategy today to be ready for tomorrow. ■



PETER MAJEED

Peter Majeed is the vice president for customer success and field services at Delphix EMEA. He has over 20 years of experience in helping organisations modernise IT solutions to meet business objectives. He works with his clients in supporting their digital transformation and modernisation strategies with the underlying data strategy, ensuring data security and privacy, data portability and data agility.

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