Reference report

tde supply and install network components for the computer centre of the Beuth University of Applied Sciences Berlin

On Behalf of Science

Due to the ever increasing demands on technology and capacity, the number of network connections required in data centres is constantly increasing. For this reason, a very high packing density and flexibly expandable cabling are now basic requirements for server connections. This is also the case for the computer centre of the Beuth University of Applied Sciences Berlin, one of Germany's largest state universities of applied sciences with over 13,000 students. The university opted for the compact, scalable system solution tML - tde Modular Link by trans data elektronik for the cabling of the new main server room.

Located in the Wedding district at the very heart of Berlin, the Beuth University offers the widest range of engineering studies in Berlin and Brandenburg. It was founded in 1971 as the Technische Fachhochschule Berlin (TFH) by merging several engineering academies. In 2009, the institution was renamed Beuth Hochschule für Technik Berlin, in honour of the "father of engineering education", Christian Peter Wilhelm Beuth. With its new name, the state university stands completely in the tradition of Beuth's practice- and also future-oriented training of qualified specialists. The origins of the Beuth University date back to the 19th century, when the reforms of the Prussian education system heralded the modernization of society, business and science.

Today, around 13,000 prospective technicians, engineers and scientists from Germany and abroad study at the Berlin university. In addition, the institution employs around 500 employees and 3000 professors. Since the demands for a fail-safe and reliable IT infrastructure are growing in times of digital transformation, it was necessary to restructure the data centre. One of the basic tasks of the project was the installation of passive network components in the new main server room.

tde enters the stage

"Through our own research in the internet, we came across the Dortmund company tde, made contact and invited tde to submit a tender," reports Markus Wigge, IT systems engineer in the university computer centre's network division.

The most important requirement of the university's IT project team for the new passive infrastructure solution was a modular structure. The IT staff should be able to install, remove, rebuild and convert the system themselves at any time. In addition, they wanted a compact and space-saving solution. This is where tde scored extra points with its tML - tde Modular Link System. In competitive cabling solutions, changes to the network infrastructure are often associated with a great deal of effort, as the network technicians often have to reinstall and remeasure parts of the existing cabling. In contrast, the tML system components, which are pre-assembled and tested at the factory, enable a swift installation of both TP and fibre optic cabling via plug-and-play in the data centre. Ready-made high-

pair or high-fibre trunk cables are simply plugged together with distribution modules. This was one of the reasons tde was able to win the bid for the project.

Quick and available

The tML system is a modular cabling system with a three core components module, trunk cable and rack mount enclosure. TP and fibre optic (FO) modules are easily combined in one rack mount enclosure with a very high port density. 1U can accommodate up to 96x LWL Duplex or 48x RJ45 ports. The MPO connection cables at the rear and the miniaturized copper trunks with termination block connection technology are the heart of the system, which can be used to connect at least six ports with 10GbE performance at the same time.

tde delivered the tML systems a very short time after the university placed the order. The network specialist also provided the following accessories: cable entry Breakout 12-fold, dummy plate, MPO fibre optic modules with pins, fibre optic patch and TP trunk cables, labels for cable labelling and cleaning tools. „The great advantages of tde are the extremely short delivery times and the excellent support. A competent contact person is always quickly available," says Markus Wigge. The tML cabling systems were installed swiftly and easily on site. Employees from Beuth University and tde ran the cables together and completed the connections from the tML systems to the redundantly designed switches.

Compact, more compact, tML

When fully loaded with eight modules, the tde-19-inch system can accommodate up to 96x fibre optic LC duplex ports with 192 fibres, 96x 12-fibres MPO with 1152 fibres or 96x 24-fibres MPO with 2304 fibres. Possible configurations are also 16-fibres MPO, 32-fibres MPO, 72-fibres MPO and even 96-fibres MPO. Different modules can be combined with fibres optic and copper ports, e.g. RJ45, within one rack mount enclosure. Even older connection arrangements such as SC, ST or E2000 can be integrated.

"When developing the tML system platform, we deliberately paid attention to easy handling. Our desire was to enable network technicians, with, as we have learned through experience, very little time, to implement the system quickly and easily and to shorten installation times," explains André Engel, CEO of tde.

Another plus is the compact design. "The packing density is currently unique on the market," says Engel. Compared to conventional cabling systems, the tde systems require only one twelfth of the space for the same performance and thus save valuable space in the data centre. The resulting lower cable volume has a positive effect on the weight of the cabling and the fire loads are lower than with conventional cables. The miniaturization of the copper and fibre optic cable volume also reduces cooling costs. Cooling currents are able to flow better. Large cable volumes, on the other hand, often have a major impact on these and unnecessarily drive up the costs of cooling systems.

One motto - one thought

"Study the future" is the motto of the Beuth University of Applied Sciences Berlin. In keeping with their guiding principle, the university has opted for the tML - tde Modular Link System. The modular cabling systems from tde guarantee long-term investment protection. "Since the modules can be easily replaced at any time, the tML system platform is the first choice when it comes to migrating to high transfer rates such as 40 or 100G and more," says André Engel. The university is thus ideally equipped for future data growth. At the same time, the tde systems make an important contribution to green IT, as network technicians can exchange and reuse the individual system components at any time. This is a factor that is becoming increasingly important in view of climate change and rising floods of waste. Markus Wigge sums it up: "The decision for the tde solution was absolutely right. We are completely satisfied. The quality of the products and components and the very

reduced installation times speak for themselves".

About tde - trans data elektronik GmbH

For more than 25 years the tde - trans data elektronik GmbH, an internationally successful company, has specialised in the development and production of scalable cabling systems for highest packing density. The nuclear research centre CERN relies on the know-how of the leading company in multi-fibre technics (MPO) as well. The company's portfolio "Made in Germany" contains complete system solutions with a focus on Plug-and-play for high speed applications in the field of datacom, telecom, industry, medical and defence. tde offers both planning and installation services through its own service department and supports the "European Code of Conduct" when it comes to energy efficiency in data centres. For more information, visit www.tde.de

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