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Revolutionary Campus Cabling

tde wires Rhenus Logistics' new data centre redundant with Plug and Play cabling



With the campus cabling in the new main data centre the globally active logistics service provider Rhenus Logistics laid the foundation for rapidly increasing future challenges. Covering a distance of 250 metres, the network specialist tde – trans data elektronik installed completely pre-terminated cables with 1000 fibres in a fast and easy way. In addition, Rhenus Logistics installed tde's recently introduced tML-Xtended cabling system. Thanks to this network system Rhenus Logistics can now easily migrate to higher transmission rates like 40 and 100 GbE at any time.

Present at 390 locations

Rhenus Logistics is present at more than 390 locations worldwide employing more than 24,000 members of staff and generating an annual turnover of 4.1 billion Euros. The complex supply chains and innovative value-added services are characterised by the business divisions contract logistics, freight logistics, port logistics and public transport. The logistics com-

pany, which was founded in 1912, regards itself as a value-adding partner for customers. The company analyses highly complex logistic processes and optimises them through customised solutions for procurement, production and distribution. Smoothly running business processes and, if necessary, short recovery times require the latest technology and a modern IT infrastructure.

Rhenus Logistics was faced with a growing lack of space, further data increase and a greater risk potential regarding the cooling and power supply. In order to ensure a safe and high-performance IT environment for the future the company decided at the end of 2013 to build a new data centre. This data centre was supposed to mirror the existing data centre and be realised as a redundant system with an elaborate and sustainable concept. The data network including the campus and rear cabling was implemented as a separate project.

The aim of the Rhenus Logistics IT managers was to install a cabling solution that is well equipped for the technological developments of the next ten years and that is especially suited for the migration to higher transmission rates of 40/100 GbE. "Under the requirement of high versatility, the solution was to be space-saving and flexible in light of new conditions," says Andreas Franzen, head of Rhenus Logistics' "data centre infrastructure".

Convinced all along the line

Following market research, Rhenus Logistics' attention was drawn to tde – trans data elektronik located in Dortmund. tde's high-quality solution was very convincing and the company was given the job: "tde's flexible and modular cabling system is unique on the market," Andreas Franzen explains the decision.

The first project step included the campus cabling: tde had to

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wire the new and the former data centre covering a distance of 250 metres. "Since all required cables were produced in-house and completely pre-assembled by tde the network technicians didn't have to splice the fibres in site, which is a time-consuming task susceptible to dirt.," reports André Engel, tde's CEO. A certified installer pulled 500 fibres via the north and 500 fibres via the south line in pipes with an inner diameter of 100 mm. The special pulling socks of the cable trunks each accommodated up to eight MPO connectors per cable, which the network technicians merely had to connect to the components. Thanks to this plug-and-play system the installation and connection time was very short.

Change made easy

"Up until six weeks before starting the new cabling solution a transmission rate of 40 GbE was not an issue. But during the project the requirements for transmission speed increased and Rhenus Logistics wanted to be equipped for the migration to high-speed transmission. Consequently, we worked on specifications using fibre optics to ensure an easy and fast migration to 40 GbE at any time," explains André Engel.

In order to meet these requirements, tML-Xtended systems were used in both data centres in connection with the fibre optic modules MPO/MTP. The recently introduced systems enable a fast and easy migration to 40 and 100 GbE. The special fea-

ture: before and after the migration the network technician can work with identical components and patch cables on both sides. This facilitates the stockage and the handling of the network system. There is no need to think about allocations. The rack-to-rack rear cabling was entirely realised with MPO multi-fibre technology according to the "plug-and-play" principle. "In addition to a fast delivery tde also offers a warranty period of 25 years. This provides us with security," says Andreas Franzen.

All cables recorded in the system

Rhenus Logisitcs has developed its own documentation system to improve the cable management. In order to use this system tde delivered all cables with individual bar codes on both ends labelled according to the prescribed nomenclature. Rhenus scans all cables – both the rear area as well as the patch cable - and records them according to the connections.

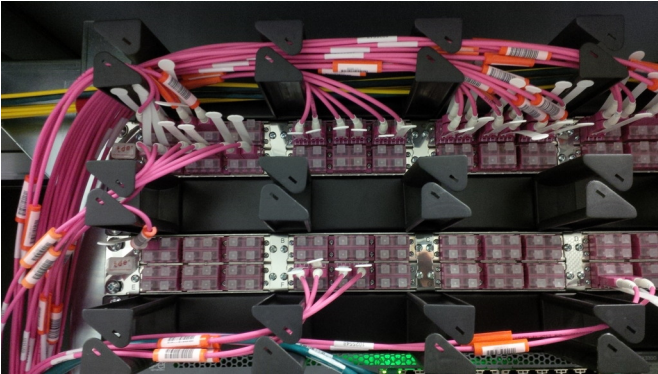
Reliable and fast

Thanks to the modular cabling and the scalability of tde's systems the project partners were able to meet all requirements. In the scope of a training event the Rhenus Logistics employees were certified for the use of fibre optics, miniaturised cable constructions and highly compact assembly units. The network specialist finally examined the result in an orderly inspection.

Andreas Franzen summarises: "The project was completed reliably and fast. tde is immediately available if needed or if the requirements change. I'm convinced by the quality, flexibility and modularity of the solution. In my opinion, tde is one of the currently leading companies in the filed of fibre optic technology."

Technical details of the tML-Xtended module

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The tML-Xtended module is based on the tML-HD module. It has 12x LC duplex connectors at the front and 2x MPO/MTP connectors with 12 fibres each at the back. The 12x duplex connectors are arranged in two mirrored rows with 6x LC duplex connectors each. tML fibre optic trunk cables MPO/MTP with type B allocations are used. The allocation in the module generally corresponds with the method B according to EIA/TIA 568.C. tde has combined the two different polarities in one module for an easier handling. The type B allocation of the trunk cables later ensures the easy migration to 40/100 GbE.

The desired crossing of the fibres is achieved by installing the module turned by 180 degrees on one side and by swapping both MPO connectors at the back. Since one fibre each has to run from the sender to the transceiver the fibres are always crossed in the fibre optic link.

tML is a patented modular cabling system consisting of the three main components module, trunk cable and module rack. The system components are a 100% made, pre-assembled and tested in Germany. They ensure a fast plug-and-play installation on site – especially in data centres but also in industrial environments. The core components of the system are the MPO/MTP and telco connectors at the back, which can connect at least six ports with 10 GbE or GbE performance at once. Fibre optic and TP modules are available and can be combined in one module rack with a very high port density.

About Rhenus

The Rhenus Group is a globally operating logistics service provider with an annual turnover of 4.1 billion Euros. Employing over 24,000 members of staff Rhenus is present at more than 390 locations. The management of complex supply chains and innovative value-added services is characterised by the business divisions contract logistics, freight, logistics, port logistics and public transport.

For more information visit www.de.rhenus.com

About tde – trans data elektronik GmbH

For more than 20 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. Also the nuclear research centre CERN relies on the know-how of the leading company in multi-fibre technics (MPO). The portfolio "Made in Germany" contains complete system solutions with a focus on Plug&Play for high speed applications in the field of Datacom, Telecom, industry, medical and defence. With its own service department tde offers planning and installation services from one source and supports the "European Code of Conduct" when it comes to energy efficiency in data centres. For more information visit: www.tde.de