Reference report

tde - trans data elektronik provides the passive infrastructure for skytron energy's new data centre

Excellence in Flexibility and Practicality

In the course of the expansion of their business premises, the photovoltaics company skytron energy has erected a new data centre. The network components for the passive infrastructure were supplied by tde - trans data elektronik GmbH. The flexibility, modularity and availability of the high-quality plug-and-play solutions of the company based in Dortmund are extremely impressive - and every single one is manufactured in Germany.

A photovoltaics pioneer from the start, the technology company skytron energy has evolved into the leading provider of monitoring, controlling and surveillance systems for photovoltaic power stations in the last 30 years. The company based in Berlin-Adlershof supports a sustainable, and, at the same time, an economical usage of solar power.

In 2014, skytron energy was faced with the task of expanding their business premises which had become too small. To deal with the space problem, the technology company rented an additional floor in the building in which the company headquarters was already located. In the course of their expansion project, skytron energy decided to move and completely reinstall the data centre on the new floor. Up to this point, the network connection had been enabled via Cat.5e and Cat.6 connections utilizing LaserSurface Authentication technology. The company used patch cords for the wiring in-between racks with the goal of collating all of the new data centre's passive and active network infrastructure in the central racks.

A single solution for complex requirements

The requirements for the project were complex and demanding. The first step was to extend the network cabling from the offices already in use from the old networking rooms into the new data centre. In order to satisfy the high security requirements of skytron energy, whose systems would be controlling 7 Gigawatts (GW) of installed photovoltaics power, the technicians were faced with the challenge of implementing the extensions during regular business hours. The new premises not only had to be rewired with new Cat6A cables, the old Cat.5e cables had to be integrated as well. To achieve this, the network technicians doubled the network ports in all office spaces. Due to the space issue, the new solution had to provide a high port density and be flexible enough to implement changes and extensions at a later point without tools or LSA.

The departments for Hardware and Embedded Devices Developments requested that the new data centre solutions would be capable of a flexible organization of complex experimental setups across all office spaces simultaneously. For that purpose, skytron energy planned to permanently install test walls with up to six network connections per workspace. The IT staff also wanted a data centre solution which would allow the consolidation and optimization of the local virtualization infrastructure. „To guarantee the required speed, we also planned to consistently convert the server infrastructure to a redundant 10G connection", explains Carsten Rosenberg, project manager of skytron energy's IT infrastructure. „After all, we wanted

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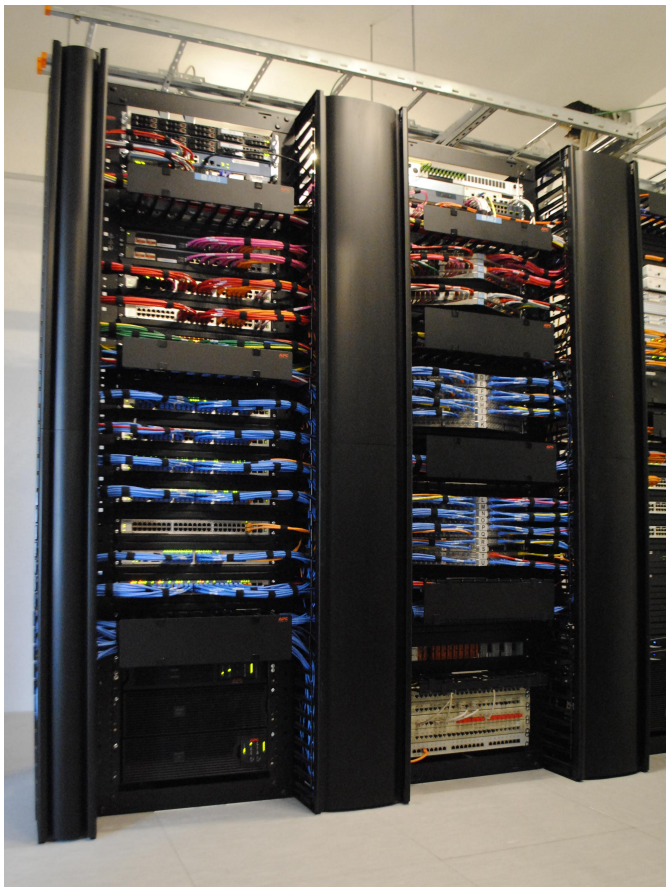

high-quality rack-to-rack cabling end-of-row assembly."

Achieving goals one step at a time

After the decision for building a new data centre had been made, skytron energy now needed a capable partner to turn it into reality. The company was already aware of tde due to their internet research. The opportunity for a personal introduction came during tde's road show „10/40/100 GbE: Revolution der Netze" at the Berlin Olympic Stadium. „The event gave us the chance to get to know more about this company and to form an opinion on their high-quality products in person", explains Carsten Rosenberg. tde holds its ground against competitors with a consistent product portfolio and its extremely flexible modular products which enable later enhancements and alteration at any point with little time expenditure. And so the ground work for a collaboration between tde and skytron energy was laid down.

After finishing the project planning in March of 2015, the data centre technicians' first step was to build the basic structure of the date centre with double flooring, electric outlets and racks. Afterwards the new connection cables were installed to include the new office spaces on the additional rented floor of the building. During May of the same year, the new and old cabling was installed in the central network rack and the racks were connected using trunk cables. „After that, the time had come to move into the new data centre," says Carsten Rosenberg. After the move, the network cables of the existing office spaces were extended to encompass the new data centre. „In order to do that, we shut down six lines and attached termination blocks at their ends in the old networking room. Then we extended them with tBL-Extenders from tde and trunk cables to connect them to the new data centre", explains Carsten Rosenberg. skytron energy's final step of the project - for now - was the building-to-building fibre connection and the rack-to-rack cabling in January 2016.

As easy as building Legos

The rewiring and cable extensions were undertaken by a network company commissioned by skytron energy. All cables and all other network components necessary for the conversion and upgrading of the network infrastructure were provided by tde - pre-assembled and capable of plug-and-play.

The centre piece of the new infrastructure is the tSML - tde Semi Modular Link System integrated into the racks. TP single cables and TP trunk cables as well as fibre cables in a patch panel can be incorporated in to this highly flexible and modu-

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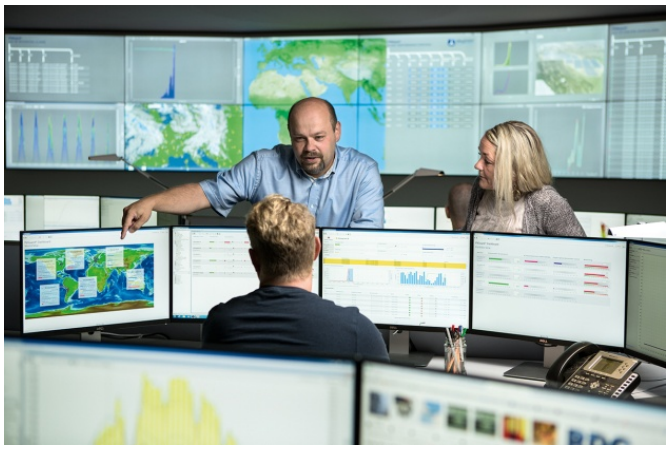

lar system. Together with the patch panel connected to the cables, they can be coupled with standard height racks that have a high port density. This makes the wiring solution extremely space -efficient.

The MPO/MTP® connectors mounted on the back are the essence of the tSML, via which at least six ports can connect to 10G all at once. With the MPO technology users can easily and efficiently migrate to 40 or 100G. Working with fibre optic distribution systems with a high fibre count makes MPO the future of plug-in connectors. „It was our goal to create a space-efficient solution which can multiply the performance through its high scaleability alone“, says Andre Engel, the CEO of tde.

The trunk cables, also supplied by tde, are available in all lengths with a choice to install them with or without a plug-in (6x) module. „We were therefore able to install them in empty conduits and floor ducts as well, without any problems“, recounts Carsten Rosenberg. The provided angled high-density patch panels of tde were ideal for the open frame racks with vertical cable management which skytron energy used. The extension of the cables was done with a tBL-Extender equipped with termination blocks. These were quick to assemble and can be removed from the module at any given time. Except for the termination blocks, no tools were needed for the installation.

Satisfaction across the board

After the conclusion of the project, skytron energy showed itself to be completely delighted with the accomplished work. The central network rack and the structured cabling system simplify rack-to-rack problem documentation and location. These are merely two of the many advantages of the new solution. Apart from that, skytron energy can from now on effortlessly use Ethernet and other protocols - for example serial transmissions - in all of their office spaces. Another perk is the high flexibility of their new infrastructure. If needed, skytron energy can reorganize its whole data centre without having to rewire a single connector.

The whole project ran smoothly. No difficulties arose at any point during the installation. The hardware has operated flawlessly ever since its launch.
„We can rely on tde for the high availability of network components“, says Carsten Rosenberg. The provider of PV monitoring will be relying on tde in the future. skytron energy will be using tde's patch panels and trunk cables for the assembly of their additional server racks as well. „We have complete confidence in the quality of products by tde. We are completely satisfied and have been able to meet all requirements“, says a delighted Carsten Rosenberg.

Components of the new solution at a glance:

Network racks: tSML-MS-19/0,5 HE-KB + tSML-M19/0,5HE-KB
Rewiring: tBL-RJ45 DCX6/KT26 (partially T-T3KT/T3KT-N26C3)
Extension: tBL-EXT/KT22 + T-T6D/T6D-N26C

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Rack-to-rack: T-T6D / T6D-N26C
Fibre: tSML-M-19/0,5 HE-KB + tSML-M06LCD-VI
Building-to-building: SKY-LC/LC50B12G4
Patch cables: SS-H6AZxx-N, L-LC/LC50D4
Hardware: Switches and server capable of 1G to 10G

www.tde.de

About skytron energy

skytron® energy has been developing integrated monitoring, controlling and remote surveillance systems since 1977. The company is one of the leading providers in the industry specialized on commercial power plants and large power stations. skytron energy has installed monitoring solution in over 1000 facilities worldwide, with a total capacity of 7,3 GWp. The core competencies of the company are features such as remote monitoring systems, system migration of existing installations, operation & maintenance services as well as asset management. As a technology leader, skytron energy has won numerous awards such as the sought after Solar Industry Award for the data logging system „skylog“ or the InterSolar Award for their control room platform „PVGuard“ and their string current monitor „StringGuard“. For more information, please visit www.skytron-energy.com.

Über die tde – trans data elektronik GmbH

Als international erfolgreiches Unternehmen ist die tde – trans data elektronik GmbH seit 25 Jahren auf die Entwicklung und Herstellung skalierbarer Verkabelungssysteme für größte Packungsdichten spezialisiert. Auch das Kernforschungszentrum CERN vertraut auf das Know-how des Technologieführers in der Mehrfasertechnik (MPO). Das Portfolio „Made in Germany “ umfasst komplette Systemlösungen mit Schwerpunkt Plug&Play für High-Speed-Anwendungen im Bereich Datacom, Telecom, Industry, Medical und Defence. Tde bietet mit einer eigenen Service-Abteilung Planungs- und Installationsleistungen aus einer Hand und unterstützt den „European Code of Conduct“ für Energieeffizienz in Rechenzentren. Mehr unter:

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