

The micro climate is decisive

Philips trusts integrated RimatriX5 solution

When Philips Germany consolidated four locations previously spread out over Hamburg to one new headquarters, this also challenged the IT. It is a truism that IT and cooling belong together in high-performance server installations. As the general contractor had allocated the building solely as office space, special requirements for the IT infrastructure, in particular for climate control and power supply, had to be considered. The continuous infrastructure solution RimatriX5 by Rittal is being used.

The Dutch electronics group Royal Philips Electronics, founded in 1891, is the largest electronics company in Europe and one of the largest in the world. Historical growth meant that the different business sections were spatially separated and spread out over the city. Within the framework of an investment stop and with the background of a move to the new building in the vicinity of the Außenalster, the goal for 2005 was: consolidation of 80 physical servers to less than 30 and harmonisation of the existing data with the new environment.

New server room infrastructure integration in the office building

Miniaturisation also has its risks and side effects. With this insight in mind, one of the essential challenges for System Administrator Jörg Kröger and his team was the climate control in the new server room in terms of availability. "The landlord planned the new building purely as office space. A data centre was not provided for. This was the reason why there were no false floors and no room climate control with ventilation. This would not have been sufficient for our IT. We therefore had to say goodbye to the topic of room climate control. What was increasingly more important to us was rack climate control."

Subsequently, the Philips IT specialists carried out a market study. "Only Rittal was left after an analysis of the information was completed", Jörg Kröger briefly summarises the selection process. "Rittal had significant advantages over its competitors on the basis of the so-called Liquid Cooling Package (LCP), a water-cooled heat exchanger. The use of a rack-based liquid cooling system seemed the most high performance solution to us – in particular in view of our future need for computing power which we could not estimate in advance."

Flexible scaling of cooling output per rack

The Rittal LCP provides rack-based climate control as it is installed in place of a rack side panel and creates a micro climate in the closed system which does not effect the room temperature. There are one to three heat exchangers in the LCP which cool the air. This means that the cooling level can be adapted to the relevant cooling requirements. Philips currently has one or two cooling modules with an individual 4 kW cooling power installed in each of the 12 LCPs in total.

All-in-one

A rack is more than just an enclosure to house the units, in particular due to cooling, power supply and monitoring systems. This was the reason why it was important for Jörg Kröger to have only one contact. A further reason was the compatibility of all individual modules in the new data centre.

Generation of heat first of all requires power. Philips uses the modular, separately secured Rittal low voltage distribution. A so-called Power Distribution Rack provides three-phase supply to each downstream Power System Module. On the one hand, the power supply links are fitted shock-hazard-protected and space saving on the back frame strut of the rack and on the other, they are constructively designed in such a way that the associated socket modules contact either the mains power supply or the uninterrupted power supply (UPS) depending on the installation direction.

One has to know what is going on. "A permanent monitoring is a must for the highest availability of the entire IT", Jörg Kröger explains. "We therefore are also using the suitable Rittal monitoring solution. The so-called CMC-TC monitors the temperature, humidity, UPS, fan function and fire via sensors. We set limit values and transfer SNMP traps to the existing HP System Insight Manager. We alert systems management via email and SMS in case of so-called critical events."

Result

Jörg Kröger summarises: "A data centre's infrastructure is not trivial. It therefore is important to use suitable solutions. Choosing the RimatriX5 infrastructure components paid off. On the one hand, the solution is open to future expansions. Power supply, UPS and climate modules can be expanded even during ongoing operation. That was very important as we can hardly estimate volume and growth on the basis of the previous consolidation. On the other hand, the climate concept was convincing as we have continuous rack climate control which works very directly and efficiently and independently from the room temperature." The Rittal solution provides a secure basis for the new Philips IT. And if the infrastructure is not secure, the integral safety in computers and software will not be worth much.

Components: Rack, LCP, UPS, PDR, PSM, CMC-TC