



Press Release

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Berner Group invests in safeguarding its server infrastructure against failure

- **Seven-figure sum invested in data center**
- **System availability of 99.98 percent**

A reliable IT system is indispensable in the business world. After all, if the technology fails, then practically nothing else works in many areas of a company nowadays. The Berner Group has extensively modernized its data center infrastructure in order to protect itself as best as possible from the risk of a server failure. The conversion and extension measures were carried out over the last twelve months during ongoing operations. The B2B specialist in the construction and automotive trades invested a seven-figure sum in the company's digital heart at its headquarters in Künzelsau.

People may be familiar with this much high-tech at major Internet service providers such as Deutsche Telekom or 1&1 – at traditional, medium-sized family-run businesses, however, a modern infrastructure of this kind is probably quite rare. “As a multichannel sales company that is totally committed to driving forward the digital transformation on all levels in the back office and within the external sales force, we rely on fully functioning technology,” stresses Christoph Möltgen, CIO of the Berner Group. “As such, we deliberately went the whole hog when planning and developing the new data center. We cannot and do not want to entertain the idea of a major failure.”

Along with another location in Weinheim, the data center in Garnberg is the “home port” for the group's cloud strategy. From marketing, sales, and logistics to customer service, human resources, and bookkeeping, virtually all departments use the servers in full or to a large extent when conducting their business. This is also why Berner has gradually increased the security level of its IT infrastructure in recent years – and now additionally upgraded it.



Multiple redundancy

The wholesaler has a so-called Tier 2-plus data center. With this security standard, all components and units relevant for operations exist at least in duplicate, but are often even more numerous. The principle of this reserve capacity – which the experts call redundancy – means that in the event of a failure, even the replacement's replacement could ensure that day-to-day business operations continue at Berner without any negative impact. Even a power outage on the public grid would cause no problem, because any blackout could be bridged with the aid of battery blocks and an uninterruptible power supply (UPS). In the rather unlikely event of a power bottleneck in the region lasting several hours, Berner can also resort to using diesel-powered generators for emergency power.

Based on an entire year, the new data center guarantees system availability of 99.98 percent. In order to be able to achieve such a top figure, many kilometers of power cables were laid in the course of the conversion measures and several thousand nuts and bolts were tightened. The server racks are distributed across different rooms and building complexes. In addition to the classic installation arrangement in a line, Berner also opted to set up the cabinets in a cube formation. This innovative design in the form of a (closed) cube is particularly energy efficient.

Access to the servers is strictly controlled and is restricted to a small circle of IT employees. Rights are checked with the aid of a personalized chip card and the associated secret PIN. The checks continue once inside the rooms. More than two dozen video cameras monitor every move. The footage is controlled via motion sensors. The heavy steel doors must be closed again quickly after opening to prevent one of the many alarm systems from being activated.

Intelligent cooling system

The computer rooms are fully air-conditioned. Several circulating cooling units prevent the virtual, dedicated, and shared servers from overheating due to continual use. "The cooling is one of the main costs involved in running a data center," explains Berner CIO Möltgen. Accordingly, the company uses an intelligent process that does not heat up the atmosphere either. Instead, fresh



air from the hot/cold aisle layout is forced directly into the racks to cool down specific hot spots (such as the processors). While the waste heat rises toward the roof, “natural” cold air is fed into the room from here. “We have installed an air conditioning system on the building with special compressors, through which we channel the normal outdoor air to generate cool air,” says Christoph Möltgen. “This is not only eco-friendly, but also saves us money.”

Active fire prevention

Every computer room is equipped with fire and water alarms. There is also an aspirating smoke detection system for identifying fires at an early stage and analyzing the ambient air by means of hypersensitive laser particle sensors. Berner has installed an active fire prevention solution to make sure that potential sources of danger are forestalled in the first place: An “OxyReduct” system permanently reduces the ambient air’s oxygen content to a value below the ignition threshold (14.6 percent) so that the fire lacks the “air to breathe” from the very start. Costly technological damage, such as that caused by extinguishing the fire with water or foam, can also be avoided thanks to this preventive measure.

In the course of modernizing its IT infrastructure, Berner has naturally not only thought about the protection of hardware, but also data security. To this end, all data is mirrored in real time and stored in separate server rooms. The advantage: If one of the systems should happen to fail, the other automatically springs into action as a backup and can take over the pending tasks. It is also possible to carry out routine maintenance work, perform updates, or restore processes without interrupting operations at Berner, all thanks to the permanently available option to switch between the identical platforms.

24/7 monitoring

The data center is monitored by a highly qualified team that keeps an eye on the servers 24 hours a day, 365 days a year. The experts are immediately informed via various communication channels (such as text message or e-mail) if something isn’t functioning correctly – even at the weekend and in the middle of the night.



The Berner Group

The Berner Group is a family-run commercial enterprise operating in 25 countries with approximately 8,500 employees. We are the central B2B trading partner for all materials in the areas of maintenance, repair, and production for our customers in the building, mobility, and industry sectors. We create an integrated omni-channel purchasing experience for our customers. In the area of steel and C materials as well as chemicals, we are also an innovative manufacturer.