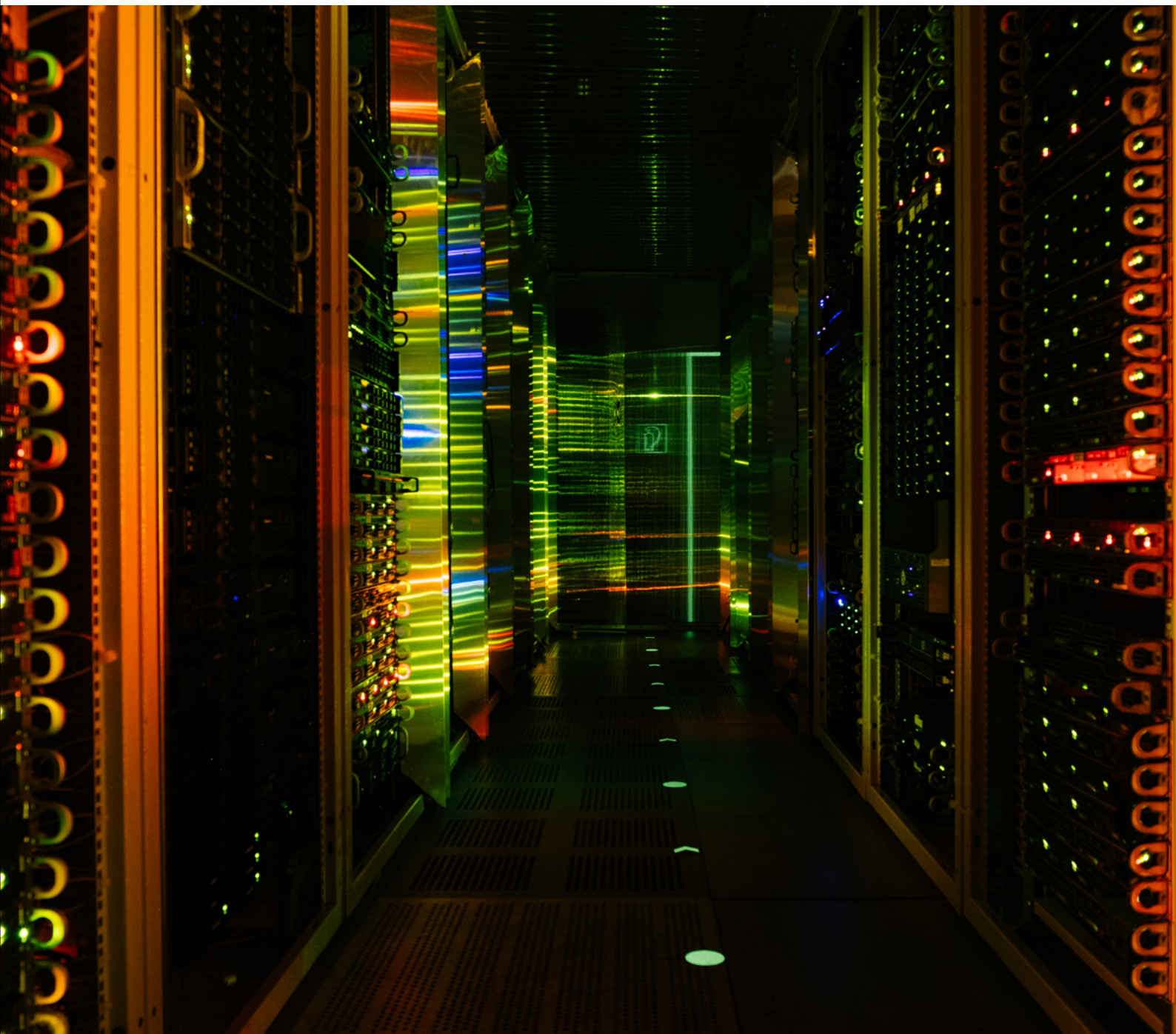




Server. Cloud. Domains.

DATA CENTER



THE KEYWEB AG



Keyweb AG has been specialising in the Internet and web hosting business since 1997.

With our reliable Internet services and a highly fail-safe IT infrastructure, we are able to serve both private and business customers regionally and internationally.



As early as the end of the 1990s, the hosting solutions from Keyweb stood for forward-looking innovation, above-average quality awareness and outstanding service. These characteristics are still the foundation of our success.

The combination of perfect technology, sincere customer contact and reliable support made Keyweb a real insider tip among hosting customers and led to a steadily growing customer base through recommendations and a positive reputation. We continued to develop and were pioneers, e.g. in the introduction of the monthly contract term or the traffic flat rate also for hosting tariffs. Both are now industry standards. Over 10,000 machines have been produced since then – who would have thought it? Keyweb today – that's competent employees in 1500 square metres of

office space, the largest hosting network in Thuringia and a worldwide customer base.

As our customer, you are at the heart of everything we do and receive a promise from us: We stand by our statements and actions. Our customers will always receive first-class, flexible products, excellent services and personalised support from us.

OUR DATA CENTER

We provide our customers with a high-performance IT infrastructure in two data centers in Thuringia, which are both hidden and located separately. We are one of the few providers in Germany to have developed, planned and built our data centers independently.

The first Keyweb data center was completed in 2004. The second followed just three years later. The data centers are protected against data theft, failure or damage due to environmental influences by a comprehensive security concept. This is confirmed, among other things, by the TÜV certification of TÜV Saarland.





SECURITY

Infrastructure

In addition to a stable and fail-safe infrastructure, we also offer state-of-the-art monitoring systems. Our entire business-critical IT infrastructure is managed and controlled with the help of appropriate monitoring systems. In addition, all sensitive areas inside are monitored by cameras. This means that all important components and critical values can be precisely checked on site at any time – from the power supply and cooling to the security and functionality of the IT systems.

Fire protection

Numerous technical and organisational measures have been taken to prevent the occurrence and spread of fires. Among other things, the data centers are protected by fire alarm systems with early fire detection systems on the ceiling and floor in conjunction with a direct connection to the fire brigade, smoke detectors and camera-based early fire detection.

Access security and camera surveillance

Our hosting and colocation customers benefit from comprehensive alarm systems and security precau-

tions for the best possible security of hardware and data. The entrance areas and server rooms are under video surveillance 24 hours a day, 365 days a year. A modern access control system ensures that only authorised persons are allowed in. In addition, regular patrols are carried out.

TÜV certification

Our data centers are certified by TÜV-Saarland. Verification takes place regularly and certifies the structural and technical security as well as the optimal organisation of the Keyweb data centers.

Comprehensive data protection

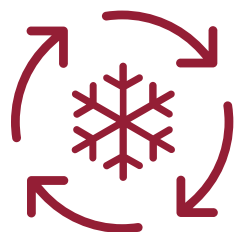
Data protection is a top priority for us. 24-hour video surveillance of entrances and server rooms, alarm-protected access control and extensive technical and

organisational security measures form the basis for guaranteeing the 100 % security of your data.

Hosted in Germany

The hosting location in Germany also offers a particularly favourable framework of regional proximity, local support and very high data protection standards. Your data is hosted exclusively in our data centers in Germany and your hosting contract with Keyweb and your personal data are governed exclusively by German law in accordance with the German Civil Code (BGB), the German Commercial Code (HGB) and the German Federal Data Protection Act (BDSG).





AIR CONDITIONING

Cooling circuit

We rely on air conditioning systems from the brand manufacturer RC-Group for the air conditioning of our data centers. The MAXIMO series represents liquid coolers with free cooling that utilise outside air as a cooling medium. These high-efficiency systems are among the most environmentally friendly and energy-saving on the market. The free cooling of these liquid coolers was first developed by RCGROUP in the 1970s. Today's design is the result of 30 years of experience in this segment. With such liquid coolers, considerable energy savings of approx. 45 % are achieved in cooler climate temperature zones.

Climate chambers

Precise climatic conditions and a high level of operational reliability are required for the smooth operation of Keyweb data centers. For this reason, we use the latest generation of precision climate control chambers. They regulate temperature and humidity within narrow tolerance limits and therefore create ideal conditions for our server rooms. Thanks to free-running backward curved fans, we achieve energy savings of 30 %. The addition of EC fans also improves the energy result by up to 65 % compared to a 3-phase motor.

Principle of cold/warm aislese

The principle of cold and warm aisles ensures that the cooling circuits in the direct area around the server can circulate as efficiently as possible. For this purpose, the servers are not all aligned with the front in one direction. Instead, aisles alternate between the front and rear. The separation of cold and warm air flows results in more efficient air conditioning, as only the warm air flows need to be tempered rather than the entire room air. This reduces the amount of energy required. The use of cold aisle containment and raised floors also protects the aisles from warm room air.

Fail-safe cooling infrastructure

In our data centers, the technical systems and servers are protected by good management and security precautions. The primary cooling infrastructure is N+1 redundant and connected to the data center management facilities. This ensures a stable climate cycle at all times.



ELECTRICITY

Dual power supply

The power supply infrastructure of our data centers has been designed in such a way that even in an emergency, maximum IT reliability can be guaranteed by a continuous power supply to the data centers. For this purpose, all racks are fused with 1x 16 amps and connected to two separate and independent power supply circuits (a+b).

Uninterruptible Power Supply (UPS)

Highly efficient Liebert NX UPS systems with several 160 kVA outputs from the brand manufacturer Emerson Network Power are used to secure the power supply to the data center in the event of possible disruptions in the electricity grid, which are characterised by their high power quality, efficiency and redundancy. This is achieved by using the true online double conversion. The vector-controlled IGBTphysi rectifier reduces network feedback in the form of harmonics, which can affect consumers in the upstream power supply network, to less than three per cent. The autonomy time of these systems is at least 30 minutes.

Diesel generator

The UPS systems are supported by Deutz diesel generators. If the external power supply fails, the permanently preheated emergency power generators kick in within a few seconds with a peak output of 500 kVA and take over the power supply to the data center until the regular power supply is restored.

NETWORK

Server rack connection

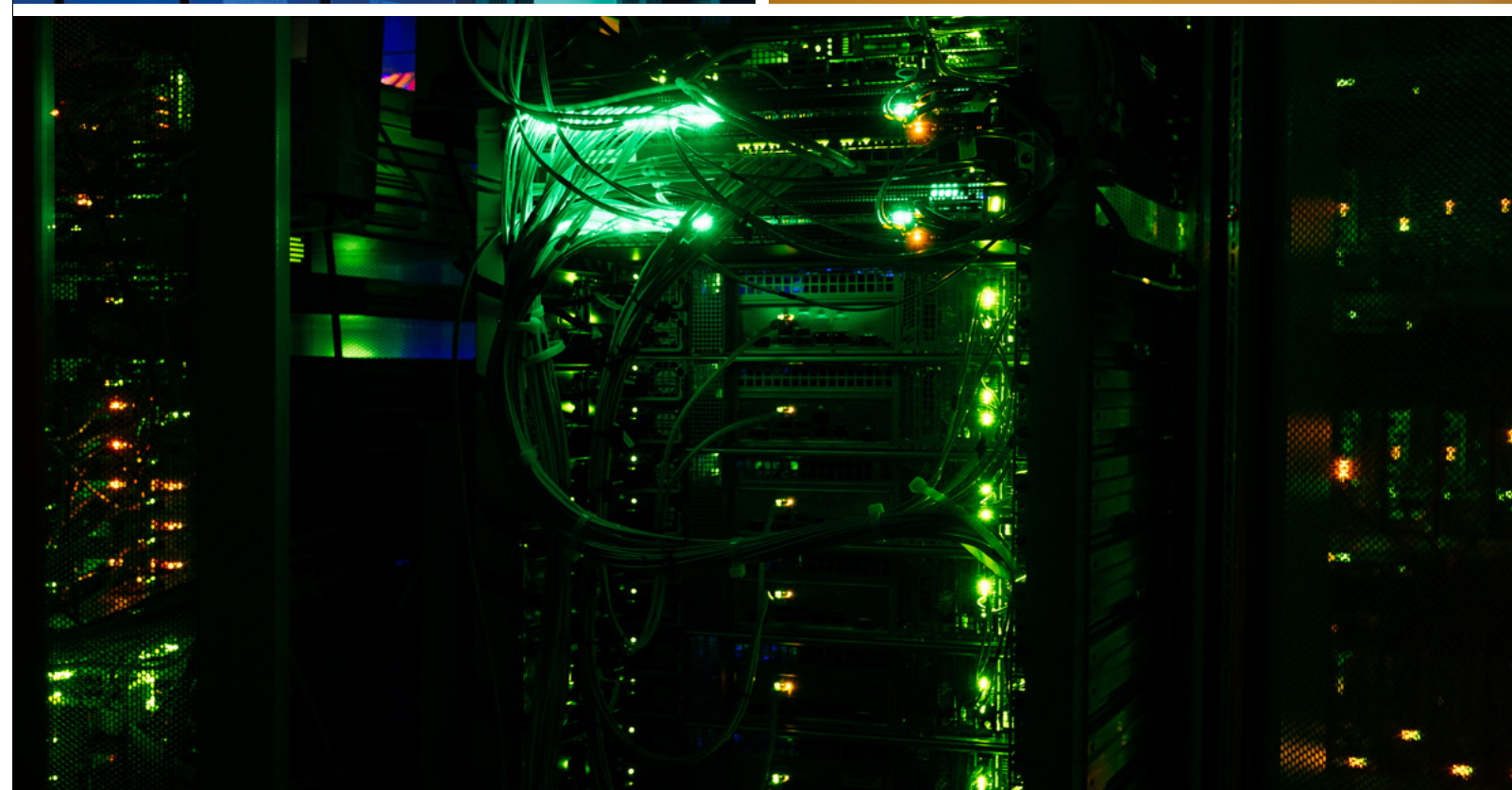
The network infrastructure of the racks has to fulfil strict security requirements. Each server rack is connected directly to the core network. Separate networks were also created for backups and the respective server and cluster systems so that the individual data streams can also be clearly physically separated from each other. With the help of permanent monitoring of the individual network segments, so-called DDOS attacks, for example, can be recognised directly and the affected network areas isolated immediately.

Switch and router

In the core area, only quality hardware from market leader Cisco is used, which can cope with even the most demanding requirements. The flat network hierarchy ensures optimum latency and performance. By using redundant routers, we guarantee the reliability of the central network components. The best possible design of the uplinks ensures a guaranteed usable bandwidth.

External connection

With an 80 gigabit external connection, the data centers have a high-performance, multi-redundant Internet backbone. Our network connection consists of direct connections to DE-CIX, euNetworks, B-CIX, Cogent, Core Backbone as well as Vodafone and the world's largest Tier 1 carrier Level 3. Various national and international peerings to carriers such as Telefonica, Telia, Telekom Austria, Vodafone, Kabel Deutschland and many more ensure that the data always reaches its destination via the fastest route. Thanks to the multiple carrier connection, we achieve maximum availability and reliability of the network connection in our data centers, as the data transfer volume can also be routed via the line of another carrier in the event of a line failure.



THE IMPORTANT DETAILS AT A GLANCE

Network

- switches and routers from market leader Cisco
- flat network hierarchy for optimised latency and performance
- redundancy and reliability of the central network components
- optimised design of the uplinks guarantees usable bandwidth

External connection

- 20 Gbit Vodafone | 20 Gbit DE-CIX | 20 Gbit B-CIX
- 20 Gbit Level3/Cogent/Core Backbone

Electricity

- 230V, 16 A per rack
- highly efficient UPS systems from the brand manufacturer Emerson Network Power
- several 160 kVA NXA systems
- emergency power generators from Deutz and MAN
- 100 % green electricity from hydropower

Air conditioning

- water-based, from brand manufacturer RC-Group
- outdoor units with over 300 kW free cooling capacity each
- full redundancy of the climate control cabinets
- air supply through double floor
- cold aisle containment

Security

- TÜV-certified data center
- fire alarm system
- video surveillance of the entrances and the server rooms
- access control system
- comprehensive security concept against data misuse