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Hosting City Data Center

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Description of the Data Center infrastructure

1. Environment

The building is located on Váci út, 150 meters from Duna Plaza, on the side of Duna Plaza. This building was built by Budapest Bank in 2002. The Data Center was set up on the 3rd floor, so the strict requirements for the financial institution were considered right from the planning stage, during the entire design process.

2. Power Supply System

The building is served by two 10 kV transformers, each of its own. In the event of a transformer failure, repair the faulty device immediately. The power supplier provides the feed for the two transformers on an independent route, so the cables do not have a parallel route next to each other at all.

The building's power supply system ensures automatic switching between power supplies. A total of more than 800 kVA of electrical power is available in the data center, which is brought up from the transformer room on two independently routed cables.

The power supply inside the building is provided by a redundant busbar running up to the upstairs power distributors.

Redundancy of the power supply is ensured right up to the rack cabinets and, in the case of machines with shelves, to the power distributors placed on the shelves.

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3. Uninterrupted Power Supply (UPS)

Uninterruptible power supply is provided by a 200 kVA EATON and a 200 kVA ABB UPS. The output of these was also connected to all rack cabinets and shelf machines. In this way, devices with dual power supplies can be supplied independently. The UPS units can be further expanded in a modular manner.

4. Generator System

The location of the two 700 kVA Cummins generators was created on level -1 of the building. These PLC-controlled, synchronous generators each have a daily tank with a capacity of 1,400 liters and a shared common tank with a capacity of 4,500 liters. If the saturation of the direct tanks falls below 50%, the fuel pumps will transfer fuel from the common tank to full saturation. The common tank can be filled from outside the building while the generators are in operation, so 7x24 operation is ensured - in fact, for any period.

The particle filter installed in front of the fuel injector of the generators filters out impurities and eliminates the resulting malfunctions. In the event of a complete power outage, the generators start automatically within 30 seconds to signal uninterrupted systems.

The operation of the systems is tested by our employees on a rotating basis, with mandatory trial runs every 2 weeks, so that all our operator employees and engineers are able to manage the system at a skill level.

5. Fire Extinguishing System

The data center has early fire detection, a multi-zone fire alarm system and a FIREPRO fire extinguishing system operating on the aerosol principle.

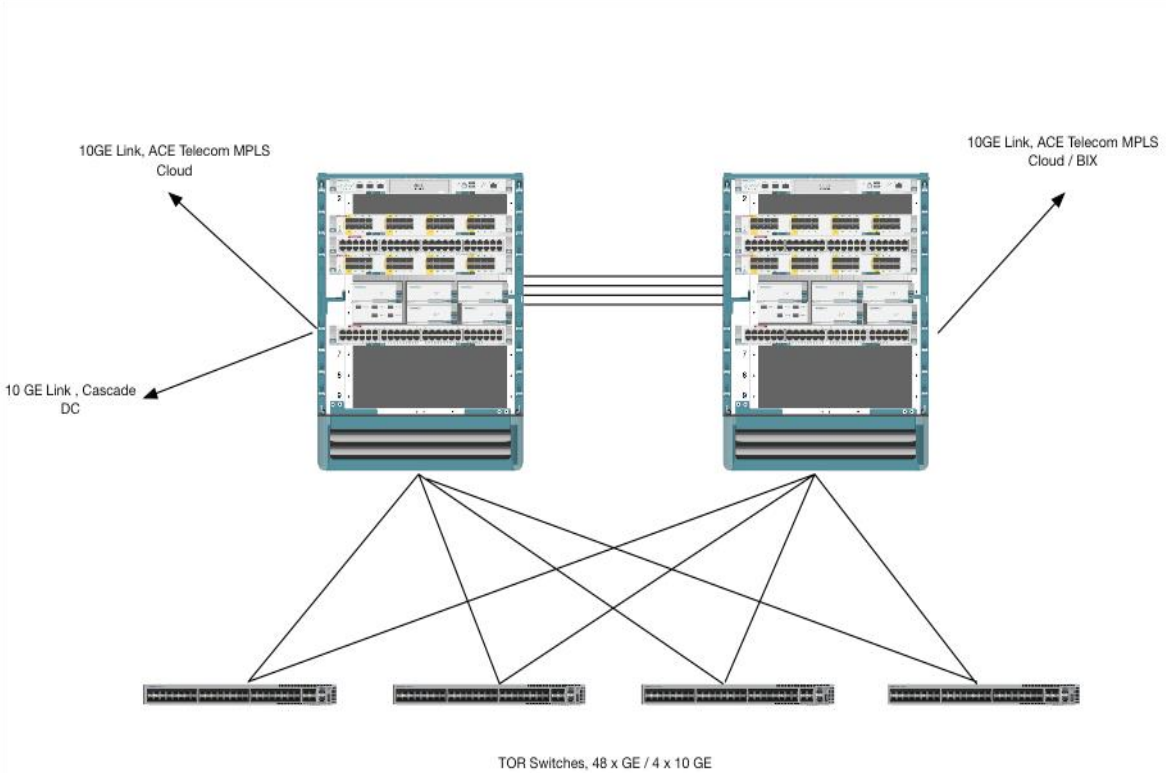
6. Air Conditioning System

The primary cooling of the data center is provided by the water system blower unit (4 pieces) produced by Uniflair, the motor of which was replaced, and at the same time the heat exchangers were cleaned and technically checked.

The 4 indoor Uniflair blowers are supplied by a 500kW liquid cooler located on the roof of the building. (In 2022, the condenser of the liquid cooler was replaced with a more modern, energy-efficient Schneider unit.)

The secondary cooling is provided by a 9-unit Toshiba split air conditioning system, which serves as a redundancy of the water-cooling system.

7. Network and Telecommunication



The network and telecommunications system of the data center (similar to other systems) is fully redundant. The central devices are Cisco Nexus 7009 type with GE and 10GE interfaces. The two Nexus 7009 form a VPC Cluster and are part of ACE Telecom's MPLS network, performing both MPLS LSR and LER functions. The VPC Cluster allows ToR switches (Cisco and Arista types) to connect to the VPC Cluster redundantly using the LACP protocol. The external connections of the Nexus 7009 devices have a speed of 10 Gbps, which lead to BIX, an ACE Telecom POP located on Váci út, and Cascade's data center on Bácskai utca. Thus, Hosting City has 3 external connections!

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The connections of the ToR switches are 10 Gbps to the VPC Cluster. If a tenant requires a direct 10 GE connection, it can be achieved by plugging directly into the Nexus 7009 devices.

Hungary's largest telecommunications service providers are also present in our data center.

8. Freight elevator

Next to one of the direct entrances to the data center (the back entrance) is the freight elevator built specifically for the data center.

9. Documentation

Professional documentation of the entire system described above is available. You can view the documentation in the data center.

10. Regulation

Operators work in the data center are regulated; its regular review takes place every quarter.

11. Operator team

The operator team running the data center currently consists of 6 people. The operator base consists of employees with several years of data center operation experience. We provide 24/7 personal professional supervision for the data center and, if required, a Help Desk.

12. Access Control System

The card access control system located at the main entrance of the building is complemented by the security service at the main entrance.
On the 3rd floor - at the level of the data center - a logged card access control system operates

13. Camera Surveillance System

The entire area is covered by camera surveillance. The recordings are stored and handled in accordance with internal regulations, and this can be changed if required.

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14. Power Consumption measurement

Digital meters were installed on both branches of the redundant power supply system. We can measure per rack cabinet and per customer, with the help of which the power consumption is documented historically with an accuracy of 5 Wh.

15. Storage

A lockable storage room and metal lockers allow our contracted partners to store the equipment we have to place on site in a closed manner.

16. Operator space for clients

We provide a separate operator console room for partners

17. Operator services

- 7/24 operator services
- Device restart (turning on/off)
- Management (replacement, store) of backup tapes
- Disc replacement
- Cable replacement in the racks
- Other Rack rearrangement
- Execution of remote user instructions
- Troubleshooting
- Remote IP console
- External Help Desk service

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18. Certifications

- Cisco Certified Network Associate (CCNA) Routing and Switching
- Cisco Certified Network Professional (CCNP) Routing and Switching
- Cisco Certified Specialist – Data Center Operation
- Cisco Certified Specialist – Data Center Design
- Cisco Certified Specialist – Data Center Core
- Cisco Certified Specialist – Enterprise Advanced Infrastructure Implementation
- Cisco Certified Specialist - Enterprise Wireless Design
- Cisco Certified Network Professional Data Center
- Cisco Certified Network Professional Enterprise
- Cisco Data Center Unified Computing Support Specialist
- Cisco Data Center Unified Fabric Support Specialist
- Cisco Certified DevNet Associate Veeam – Certified Technical Sales Professional
- Veeam – Certified Sales Professional
- Veeam – Certified Technical Sales Professional
- VMware Certified Professional Data Center Virtualization
- ISACA Certified Information Systems Auditor (CISA)
- ISACA Certified Information Security Auditor (CISM)
- ISACA Certified in Risk and Information Systems Control (CRISC)
- ISACA Certified Data Privacy Solutions Engineer (CDPSE)
- ITIL v3® Foundation
- ITIL V3® Service Operation Certificate