

1&1 Internet, Inc. Data Center Lenexa, Kansas



Facts & Figures

- 55,000 square feet
- 5 server rooms
- Capacity for up to 1,000 racks
- Capacity for at least 40,000 servers
- 2 sets of mason walls (each room is a building within a building)
- 2nd steel reinforced roof with a concrete layer
- Redundant backup diesel generators
- Redundant uninterruptible power supply (UPS) systems
- Building access protected by multi-layer authentication and multiple 24/7 security cameras
- Redundant backbone routing systems of 2 different vendors to protect against software bugs (e.g. security related) in the system of one vendor
- Data transferred between servers and the Internet at 40 Gbps

Location

- The Lenexa, Kansas location makes it possible to have equal latency for both the East and West coasts by being in the middle of major traffic areas.
- Renowned for reliable power supply, Kansas is one of the safest locations to have a data center.
- Kansas City is the 2nd largest railroad hub in the U.S. with fiber lines running parallel to railroads, making Kansas City an apex of data connection (crossroads of many fiber lines between New York – San Francisco and Chicago – Dallas).

Server Rooms

- The data center rooms provide security, power, cooling and fire protection.
- A security system only grants access to people on a need-to-have basis after proper

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authentication and authorization.

- Feeds from UPS systems provide clean and reliable power.
- 4-foot raised floor provides ample and unobstructed space for cold air from up to 9 (6+3 system) Computer Room Air Conditioning (CRAC) systems per room to cool the servers.

Lab Room

- Equipment is tested to ensure interoperability, stability, security and proper long-term operation.

Electrical Rooms

- Rooms house the power distribution infrastructure, transformers, automatic transfer switches, static switches and the UPS systems.
- The UPS is connected to battery power banks, which are housed in a separate room.
- Static switches change to a redundant UPS in case a regular UPS fails.

Network Room

- Two separate rooms provide secure and diverse space for redundant routing systems of different vendors.
- Data streams at up to 100 Mbps (dedicated servers) and up to 1000 Mbps for other high traffic servers (e.g. mail servers). Customer servers are protected from external intrusions by redundant firewall systems.

Pump Room

- Rooms contain the mechanical systems (e.g. redundant secondary pumps) connecting the outside cooling infrastructure via a pipe system with the CRAC units inside the data center.
- 3 pump rooms form a 2+1 redundancy system.
- State-of-the-art fire detection and prevention systems include a very early smoke detection, an FE-25 gas-type extinguishing system, and a double interlock pre-action sprinkler system.

Chiller Area

- 3 (2+1 redundancy) chiller plants – each having their own and separate piping system – provide a continuous flow of a chilled water/glycol mixture to CRAC units.
- Chiller plants have redundant primary pumps.
- The initial capacity of each plant is 300 tons.
- The capacity can be doubled by adding a second chiller per plant.

Generator Areas

- 2 generator systems each supply up to 2250 KW in case of a utility outage. The 3rd and redundant generator can supply up to 2500 KW in preparation of future bigger generators for the future electrical rooms.
- 2 independent automatic transfer switch systems constantly monitor the utility feeds and automatically start the generators in case of an outage.

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- 2 more generator systems are planned for the future as the power demand rises in the data center.