

keeperSAFE™ - Specifications

keeperSafe is a disruptive technology that will forever change the way the industry thinks about storage

keeperSAFE™ is a purpose built, scalable storage appliance.....Simply stated: a 'Transitional Technology' which eases the switch from a traditional dedicated bare-metal application environment to cloud-based architectures without having to invest in a new storage infrastructure. keeperSAFE provides a customizable and elastic File, Block and Object storage capability with full support for all modern network attached file system storage protocols such as NFS and SMB as well as RESTful object storage interfaces such as Amazon's S3 object protocol. keeperSAFE natively supports OpenStack and other Linux physical and virtualized storage environments. It fully leverages a unique combination of mature open-source data storage projects and Keeper Technology developed code, all tightly integrated with commodity hardware, ultimately providing an open solution that is free from vendor lock-in.



Highlights of keeperSAFE

Data Resiliency and Protection

- Integrated Real-Time Data Protection and Integrity
- Automatically isolates and minimizes component failures
- Snap shots
- Journaling
- Continuous data replication to multiple copies

Scalable and Elastic

- 100s of terabytes to 100s of petabytes and beyond
- Bandwidth scales as the system grows
- No controller bottleneck
- Objects at the core eliminate RAID disadvantages

Continuous Operations

- Self Healing
- Automatic, decentralized data look-up
- Unified GUI for hardware and software
- SWARM enabled rebuild times

Future Proof Design

- Fueled by Open Source
- On-line Technology Modifications
- Non disruptive upgrades
- Proven hardware

Multiple Presentation Layers

- NFS3, NFS4 Network Access
- SMB1, SMB2, SMB3 Network Access
- RBD, Cinder Block Access
- S3, Swift, Other REST(ful) Access

Security

- Encryption at rest
- External Key Management Support (KMIP compliant)
- Secure, audited administrative actions
- Intrasystem SSL Encrypted
- Extensive RBAC Controls

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Rack Specifications

Dimensions:

| | |
|---------------------------|-------------------------|
| - Height | 78.4 in. (1991mm) (42U) |
| - Width | 29.5 in. (750mm) |
| - Depth | 47.25 (1200 mm) |
| - Weight (Max) | 2575 lbs. (1168 kg) |
| - Weight (persquare foot) | 298 lbs/S2 (1454 kg/m2) |
| - Service Area | |
| • In Front of Rack | 48 in. (1220 mm) |
| • Behind Rack | 36 in. (915 mm) |
| • Above Rack | 12 in. (305mm) |

Power (Full Rack):

| | |
|-------------------------|-----------------------|
| - Voltage | 240 VAC, Single Phase |
| - Power requirement | 17.75 kVA (17.39 kW) |
| - Power Receptacles Rqd | (6) NEMAL6-30R |

Heat Dissipation:

59.32 kBTU/hr (4.94 Tons)

Temperature:

| | |
|---------------------------|----------------------------|
| - Operating | |
| • 0-5000 ft (1524 m) | 41 to 95 F (5 to 35 C) |
| • 5000-10,000 ft (3048 m) | 41 to 86 F (5 to 30 C) |
| - Non-Operating | -40 to 140 F (-40 to 60 C) |
| - Max Thermal Gradient | 18 F (10 C) per hour |

Relative Humidity:

| | |
|-------------------------|---------------------------|
| - Operating | 20% to 80% Non-condensing |
| - Non-Operating | 8% to 80% Non-condensing |
| - Max Humidity Gradient | 10% per hour |

Component Specifications

Physical Characteristics:

- Form Factor: 4u
- Weight: 220 lbs (100 kg)

Capacity per Storage Shelf:

- Hot Plug Drives: 72 3.5", 144 2.5"
- Raw Capacity: 288 TB (4 TB Drive)
432 TB (6 TB Drive)

Client Connectivity:

- 10 Gb Ethernet Internal
- 10/40 Gb Ethernet External

Admin Node (min 1 required):

- Form Factor: 1u
- Weight: 38 lbs (17.4 kg)

Monitor Node (min 3 required):

- Form Factor: 2u
- Weight: 38 lbs (17.4 kg)

Gateway Node (optional):

- Form Factor: 2u
- Weight: 41 lbs (18.6 kg)
- Interfaces: (2) 10 Gb Ethernet
Optional I/F: (2) 40 Gb Ethernet
Optional I/F: (2) FBR IB