



SuperStorage - Kinetic Ethernet Attached Storage

Simplifying the structure of large scale object storage

The Supermicro Kinetic Open Storage Platform

The Kinetic Open Storage platform represents a fundamental and important leap forward in storage architectures offering the disaggregation of storage from compute resources. Ethernet attached drives combined with an enabling open source protocol will allow cloud applications to access storage resources directly, taking advantage of existing object storage features.

Kinetic Storage is:

- An efficient optimized platform to maximize storage investment using ubiquitous Ethernet infrastructure
- A new class of key/value Ethernet attached storage devices
- An open application programming interface (API) and associated libraries

Installing the Supermicro K1048-RT on the network is as easy as plugging in a Layer 2 switch. Once the drives receive an IP address through DHCP they communicate in HTTP keys and values. For example, they do gets, puts and deletes. With integration in the OpenStack Swift infrastructure, the Supermicro K1048-RT Kinetic appliance allows cloud applications to distribute objects and manage data redundancy while the individual drives manage drive specific functionality, such as:

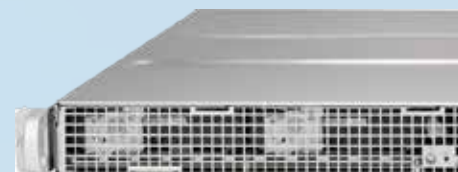
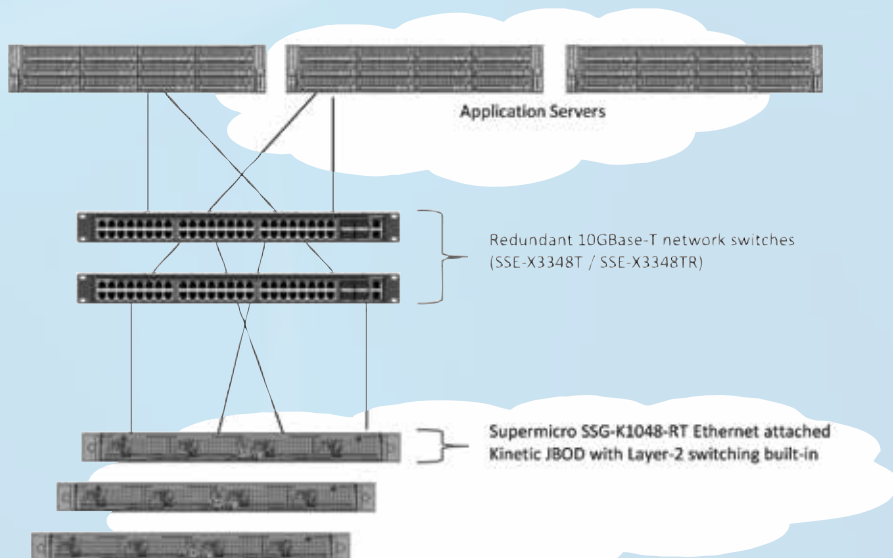
- Managing key (object) ordering
- Providing Quality of service
- Policy-based drive-to-drive data migration
- Handling of partial device failures and other management
- Data-at-rest security

For more information about the Kinetic Storage Platform and open API go to:

<http://developers.seagate.com>

Typical Deployment Model

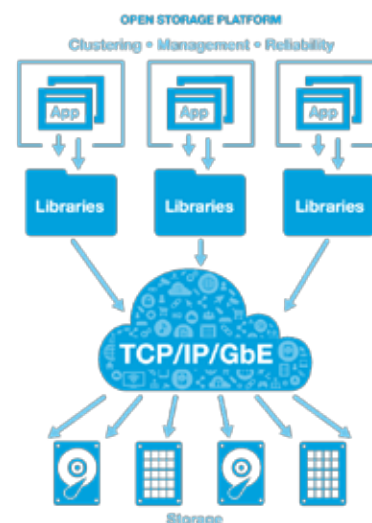
The Kinetic interface allows fully redundant network connectivity providing highly resilient multipath access directly to the Ethernet attached storage media.



SUPERSTORAGE K1048-RT AT-A-GLANCE

- 48TB of Ethernet attached storage
- 1U rack unit with 12x Kinetic Drives
- Redundant Network Connectivity Featuring Dual 10GBase-T (4 ports)
- Layer-2 switching to Ethernet attached Drives
- Dedicated IPMI/I2C management port
- Cable management arm is included for non-disruptive drive replacement

Kinetic Concept





Full system specification, manuals and other resources can be found at: <http://www.supermicro.com/kinetic>

Product SKUs	
SSG-K1048-RT	48TB Capacity Kinetic SuperStorage K1048-RT
System Overview	
Form factor	1U/12x 3.5" Drive bays (Top Loading)
Integrated Storage	48TB using 12x 4TB 7200rpm dual ported Kinetic drives
Switch Architecture	Redundant Layer2 Switch each with 16x 1G downstream ports to the drives, and Dual 10GBase-T external /upstream ports
Drive Interface	Redundant 1Gb/s SGMII Ethernet ports ports (one from each switch)
Network ports	4x RJ45 copper LAN ports (10GBase-T, backward compatible to 1G) 1x RJ45 Dedicated IPMI LAN port
Management Interface	Support for Intelligent Platform Management Interface (IPMI) v.2.0 IPMI 2.0 with I ² C integration for remote system monitoring and control for power and networking functions
Serial Port	1 Fast UART 16550 port (9-pin)
Chassis	
HxWxD	1.7" (43mm) x 17.2" (437mm) x 32" (813mm)
Net Weight / Gross Weight	45lbs (20.5kg) / 60lbs (27.2kg)
Drive Bays	12x 3.5" Hot-swap HDD bays
Front Panel	
Buttons	Power On/Off button
LEDs	Network activity LEDs, Unit ID
System Cooling	
Fans	6x 40x28mm PWM cooling fans
Power Supply	
Redundant 400W (1+1)	SuperCompact Short-depth AC-DC Gold-level power supply with PMBus and I ² C
AC Input	400W: 100-240 V, 50-60 Hz, 6-3 Amp
Operating Environment / Compliance	
Operating Temperature	10°C to 35°C (50°F to 95°F)
Non-operating Temperature	-40°C to 70°C (-40°F to 158°F)
Operating Relative Humidity	8% to 90% non-condensing (30% per hour max)
Non-operating Humidity	5% to 95% non-condensing (30% per hour max)
RoHS	RoHS Compliant
EMC	FCC, CE, VCCI, C-tick
Safety	UL Listed, CB/IEC

Out-of-Band IPMI Management with I²C

Kinetic Systems are designed for easy out of band monitoring of the system from a web browser using the IPMI and I²C standards:

- Remotely control system power
- Monitor hard drive status
- Determine physical location of drives in the chassis



The Kinetic Open Storage Platform:

- Lowers TCO
- Simplifies object storage deployment
- Disaggregates storage from compute
- Increases innovation agility and efficiency



Redundant 400W Hot-swap Power

10GBase-T

Serial management port

IPMI/I²C management port

For more information, call your sales representative and ask about **P/N SSG-K1048-RT**.