SUSE and Supermicro: Affordable Storage for Today and Tomorrow

As the worldwide volume of data grows, enterprises are looking for better, less expensive ways to store and manage that information. With experts estimating the data created in 2025 will more than quadruple the 44 zettabytes we'll produce in 2020[1], it's clear we need a new approach to data storage. That new approach is software-defined storage (SDS)—and it's available now in a single integrated solution from SUSE and Supermicro.

Software-Defined Storage from Supermicro and SUSE at a Glance:

+ *Node-based pricing to control costs*
+ *Unified block, file and object storage*
+ *Flexible hardware and software options*
+ *Supported by enterprise IT leaders*

■ Products:
   SUSE Enterprise Storage
   Supermicro servers

SDS is a storage system that delivers a full suite of persistent storage services via an autonomous software stack that can run on an industry-standard, commodity hardware platform. It offers fast, easy access to your data when you need it and virtually infinite scalability without the budget-breaking costs.

SUSE and Supermicro have partnered to create a single, integrated SDS solution that saves you money and allows you to smoothly scale as you grow.

Our Partnership Gives You the Best of Both Worlds

SUSE and Supermicro have recently teamed up and are working together to create enterprise IT solutions based on Supermicro hardware and a variety of SUSE offerings. Our combined SDS solution is a win for your business because you get the advanced hardware and software technologies and capabilities that can keep you competitive.

SUSE® Enterprise Storage is an affordable and easy-to-manage enterprise storage solution that reduces costs while enabling unlimited scalability. The combined solution has a tested and documented installation process for easier implementation. It allows you to take advantage of the cost efficiencies of YES-certified Supermicro servers, rather than relying on expensive branded disk arrays. And Supermicro servers come in a variety of flexible configurations to meet your specific needs and budget.

Choose Easy, Cost-Effective, Scalable Storage

EASY
SUSE Enterprise Storage is an enterprise-ready version of the open source, software-defined storage solution Ceph. It unifies file, block and object storage in one solution and eliminates the complexity of storage tiering. It's self-managing, which means you can add Supermicro hardware

1 *Gil Press, "IoT Mid-Year Update From IDC and Other Research Firms," Forbes.com, August 5, 2016.*

on the fly and SUSE Enterprise Storage will easily integrate that new hardware and redistribute workloads as needed.

The solution simplifies management with DeepSea, which provides easy installation and cluster setup, and openATTIC, which helps you easily manage and monitor your SUSE Enterprise Storage clusters.

The reliable, production-ready solution offers scale-out options, from one rack to as many as you need. It also offers a range of pre-validated configurations to fit various use cases, or enables you to create a customized configuration based on your specific requirements.

COST-EFFECTIVE
The affordability of Supermicro hardware combined with SUSE Enterprise Storage node-based pricing makes the solution a much less expensive way to tackle growing storage. That means you can scale without worrying about per-gigabyte software pricing.

"... SUSE Enterprise Storage offers much lower TCO, freeing up funds for other activities. Not only have we cut administration time and effort, but also the solution enables us to practically eliminate downtime, which represents a huge cost savings and is vital for our students' productivity and satisfaction."

EMILE BIJK
Head of Network and Information Systems
Hogeschool voor de Kunsten Utrecht (HKU)

By taking advantage of Supermicro's wide portfolio of hardware choices—including the greenest and most energy-efficient x86 servers on the market—you can build the perfect solution for your data center and reduce total cost of ownership by controlling your energy demands.

SCALABLE
SUSE Enterprise Storage offers a flexible, cluster-based design for seamless and inexpensive upgrades and near-linear scaling from terabytes to petabytes with no single point of failure. Using Ceph, a single system administrator can manage up to 3 to 4 PB of data, six times more than an administrator in an equivalent block-storage environment. The system can scale horizontally even further, with increased performance results.

And Supermicro's flexibility and willingness to provide just the configuration you require means you can design or expand nodes to your precise specifications. That makes it easy—and cost-effective—to scale as your business grows.

Ideal for Backup, Archiving and HPC Storage
The SUSE-Supermicro SDS solution offers great value in a range of use cases.

DISK-BASED BACKUP
SUSE Enterprise Storage offers site-to-site replication and much faster recovery times when compared to tape backup, making it a viable backup and disaster recovery option. The solution provides a low-cost, high-performance way to meet backup window and recovery times. The solution is certified with backup solutions such as Veeam, Veritas, Commvault and MicroFocus Data Protector.

COMPLIANCE ARCHIVING
To remain compliant with various regulations, you may have to store emails, legal documents and other files for specified periods of time. SUSE Enterprise Storage can act as a target for compliance archiving systems such as iTernity to meet these very specific requirements.

HIGH-PERFORMANCE-COMPUTING (HPC) STORAGE
The combined solution supports the constant, bidirectional flow of stored data that most HPC systems demand. Because most HPC systems are Linux-based, a Linux-based storage solution will fit well into those environments.

Solution Components

SUSE ENTERPRISE STORAGE
SUSE Enterprise Storage runs as an extension on SUSE Linux Enterprise Server, a secure, open source server operating system that helps you accelerate innovation, improve system reliability, comply with evolving security requirements and adopt new technologies. SUSE Enterprise Storage offers:

- *Fast setup and deployment, usually requiring less than two hours' configuration time after hardware is unpacked and ready*

- *Self-managing and self-healing capabilities that save IT administrators time and effort*
- *A flexible, cluster-based design for graceful and inexpensive upgrades and near-linear scaling*
- *Ultimate scalability to handle massive data sets and virtually unlimited growth potential*

SUPERMICRO SERVERS

Supermicro servers offer quality performance at a price below most competitors. They have flexible configurations for specific needs, from all-flash storage options for HPC use cases to high-volume, low-cost options for archive and cold storage.

The servers are also the industry's most energyefficient x86 servers. Supermicro's 1U Ultra servers reduce your total cost of ownership without sacrificing performance by offering the best possible performance per watt.[2]

Each node of Supermicro's SuperBlade can save up to 100 watts over a traditional discrete 1U rack-mount server. By eliminating the overhead in 1U discrete servers and using high-efficiency power supplies, a SuperBlade chassis with 10 servers can save you between $700 and $1,000 per year in power.[3]

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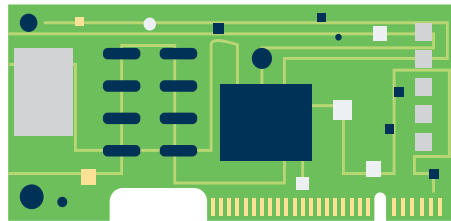
per year in power.

Figure 1. *SuperBlade Savings*

A 96 percent plus efficient Supermicro power supply can save up to $200 to $500 per year when compared to systems equipped with traditional 80 to 90 percent efficient power supplies.[3]
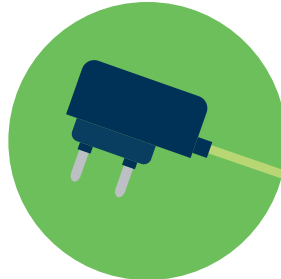

A **96%** plus efficient Supermicro power supply can save up to

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Figure 2. *Supermicro Power Supply*

Set Yourself Up for Success

Whatever your storage requirements are in this age of exploding data, the combined SUSE-Supermicro solution can help you achieve your goals. Cost-effective, massively scalable SDS can be a game changer for your organization. It will allow you to keep more data and get more value from that data over a longer period of time. Information is power in every industry today and the more you can manage, the more competitive you will be.

Find out what you can achieve with SDS. Get started with Supermicro and SUSE Enterprise Storage today.

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2 **www.supermicro.com/white_paper/ white_paper_NVMe2.pdf**
3 **www.supermicro.com/about/ greencomputing/**

SUSE and Supermicro have created a single, integrated SDS solution that saves you money and allows you to smoothly scale as you grow.

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