Enhance HPE StoreOnce with Endless Storage Scalability from SUSE and Micro Focus

SUSE®

Add Capacity and Confidence As Your Business Grows

It's becoming clear to businesses across industries and continents that data volumes are only getting bigger. Traditional storage solutions just weren't built to handle today's volume, nor can they efficiently store data of different sources and types—from unstructured files to block and object stores. And yet, solutions such as HPE StoreOnce are vital parts of storage environments.

A multitiered storage architecture with a second tier of software-defined storage (SDS) is the answer. SDS is a solution that delivers a full suite of persistent storage services via software running on an industry-standard hardware platform. By combining SDS from SUSE and backup and disaster recovery capabilities from Micro Focus with HPE StoreOnce, you get the benefit of maintaining operations while gaining flexibility to handle growing data volumes.

Together, Micro Focus Data Protector and SUSE® Enterprise Storage form an SDS and backup solution makes it easy to add a second tier of unlimited, cost-effective storage to complement and support StoreOnce environments. You can deduplicate your data using HPE StoreOnce and take advantage of the Data Protector's integration with HPE Cloud Bank to smoothly move data to the Ceph-powered SDS of SUSE Enterprise Storage.

Together, SUSE Enterprise Storage and Micro Focus Data Protector can easily integrate with, complement and support HPE StoreOnce environments to provide a second tier of unlimited, compliance-ready storage.

It's not just about adding capacity, either. Whether you need to store additional copies of that data for compliance purposes or you want to move copies of the data offsite, Data Protector's advanced backup and disaster recovery features enable you to move copies of valuable data to SUSE Enterprise Storage clusters.
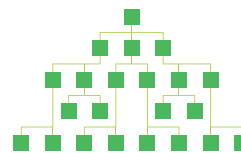
Partnered for Your Success
Together, SUSE and Micro Focus offer an enterprise-ready version of the open source, software-defined-storage solution Ceph that can unify file, block and object storage in one solution..

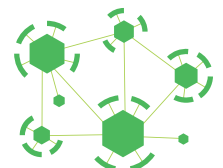Block Storage   File Storage   Object Storage

Figure 1.

The two companies have worked together for years to deliver advanced software solutions that empower enterprises to undergo the digital transformation that keeps them competitive. Our

integrated solutions help to improve the security of your data, enable you to work more efficiently and promote innovation.

Both Micro Focus and SUSE have close, long-lasting relationships with HPE as well. Micro Focus is now the home of HPE's enterprise software division, and HPE and SUSE have 25 years of joint engineering and innovation. SUSE is HPE's preferred partner for Linux, OpenStack and Cloud Foundry solutions.

One of the main benefits of choosing SUSE Enterprise Storage and Micro Focus Data Protector to complement your HPE StoreOnce environment is that the components are designed specifically to integrate with each other and are certified to work together. This means you avoid problems such as the need for administrators to write custom scripts that automate backup and recovery tasks, or the need to use a variety of backup applications that each only work well with one type of storage device.

With SUSE Enterprise Storage and Micro Focus Data Protector, you can build a second tier of storage that is infinitely scalable, compliance ready, cost-effective and easy to manage and implement.

Infinitely Scalable
There are no limits to how far SUSE Enterprise Storage and Micro Focus Data Protector can scale. Simply add hardware and the Ceph-based cluster rebalances, enabling you to grow along with your data.

Using SUSE Enterprise Storage, a single system administrator can manage up 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.

SUSE Enterprise Storage enables you to take advantage of the cost-efficiencies and reliability of industry-standard hardware to provide unlimited storage for your organization. Data protector enables you to use that storage to easily supplement HPE StoreOnce.

Compliance-Ready
Together, SUSE Enterprise Storage and Micro Focus Data Protector can help you back up data or store additional copies in different locations to meet various compliance requirements.

Data Protector offers automated retention and replication management across different backup media, storage tiers and locations for compliance and efficient long-term data retention. Because both HPE StoreOnce systems and Data Protector use the same deduplication API, data can be shared between deduplication stores created on StoreOnce appliances and those created on SUSE Enterprise Storage. This enables remote sites to keep a local copy of the backup while also sending a copy to central or disaster recovery sites. A local copy of the deduplicated backup data enables a faster restore of files.

Cost-Effective
Data Protector commonly requires a smaller footprint than competitors, making it more cost-effective. When you combine that with the unique per-node pricing from SUSE and the ability to use commodity hardware, you have an overall solution that is an extremely cost-effective way to handle lots of storage.

SUSE's per-node pricing means you can scale your storage without per-gigabyte software pricing weighing you down. In fact, in a five-year total cost of ownership study, IT Brand Pulse found that SUSE Enterprise Storage outperformed every one of the competitors.

SUSE Enterprise Storage enables you to deploy a unified block, object and file storage environment to reduce the capital and operational costs of storage infrastructure. And a feature called, erasure coding, which lets you determine how many device failures your cluster can tolerate before you consider the data compromised, helps to increase disk space efficiency. BlueStore can also help to reduce data storage overhead by enabling data compression.

Easy to Implement and Manage
Because of a shared history, Data Protector works seamlessly with HPE StoreOnce hardware and HPE Cloud Bank. This integration makes the solution easy to set up in StoreOnce environments.

Plus, Data Protector's ability to predictively track service-level agreements (SLAs) makes it easier for IT teams to manage and ensure adherence to SLAs.

SUSE Enterprise Storage is also easy to set up, due to the DeepSea installation and cluster setup tool and the openATTIC user interface.

Solution Components

SUSE Enterprise Storage

SUSE Enterprise Storage combines the versatility and flexibility of Ceph with enterprise-grade certification and technical support. Setup is quick, usually requiring less than two hours of configuration time once the hardware is unpacked and ready.

The solution is designed as a distributed storage cluster to provide unlimited scalability—from tens of terabytes to petabytes (see sidebar for more information). You can easily add industry-standard hardware and extend SUSE Enterprise Storage at the rate your organization needs.

SUSE Enterprise Storage can help make your storage solution affordable and easy to manage by reducing the need for IT staff. It is self-managing and self-healing, meaning it can automatically rebalance data without manual intervention.

Micro Focus Data Protector

Data Protector is a single solution to administer backup, restore and disaster recovery processes across hybrid IT environments. The enterprise-grade solution is built on an adaptive architecture that combines security and analytics to help you meet your continuity needs reliably and cost-effectively.

It offers compression, storage management and predictive analytics to help you better use your infrastructure. In addition, Micro Focus Data Protector's integration with HPE StoreOnce Catalyst enables federated deduplication, reducing network bandwidth consumption. After the data is deduplicated, it is seamlessly moved across the backup stack without rehydration.

SUSE Enterprise Storage is priced by node rather than by capacity, so you can scale your storage without per-gigabyte software pricing weighing you down.

Hardware-assisted snapshots help to offload the backup process from production servers to HPE 3PAR storage arrays. The solution enhances security by encrypting data at rest and during transfer. And advanced monitoring and analytics help you track and meet strict SLAs in mission-critical environments.

Support for Your StoreOnce Environment—and More

You can use SUSE Enterprise Storage and Micro Focus Data Protector in a multitier environment to solve many of today's hardest storage challenges. Here's a look at several common workloads supported by the solution.

Additional Storage for HPE StoreOnce

Data Protector can help to seamlessly pass data onto a second tier on a SUSE Enterprise Storage cluster, thus avoiding the need to replace the appliance.

Second Copy of HPE StoreOnce Data

Regulations and internal policies often require organizations to store multiple copies of company data. SUSE Enterprise Storage is a cost-effective way to store an additional copy of the data on your HPE StoreOnce appliance.

Disaster Recovery or Disk-Based Backup

For disaster recovery purposes, most organizations have short and aggressive recovery time objectives (RTOs). There's little chance that tape backup can meet such an RTO. That means organizations have had to invest in more expensive disaster recovery options. This often leads to duplication of effort, with a tape backup for most data and a disaster recovery backup for mission-critical data.

The affordability of SUSE Enterprise Storage, however, gives you the option to store more data on-premises. And because a disk-to-disk backup solution is always on and offers rapid recovery of data, you no longer need another system. You can back up everything your organization needs while offering your end users a better RTO.

SUSE Enterprise Storage Clusters

A SUSE Enterprise Storage cluster is made up of four types of nodes. The minimum SUSE Enterprise Storage cluster consists of at least one administration server (physical or virtual), four object storage device (OSD) nodes, three monitor nodes and one or more gateway nodes.
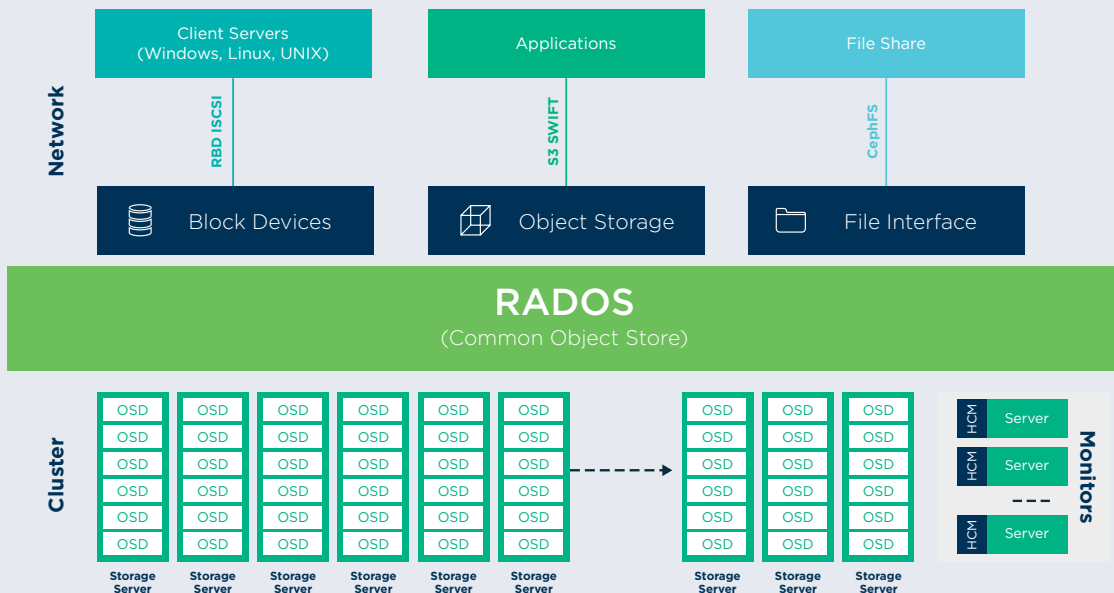
Object storage device nodes are the workhorses of the cluster and do the actual data storage. SUSE recommends a minimum of four OSD nodes for each SUSE Enterprise Storage cluster.

Monitor nodes maintain information about cluster health, a map of other monitoring nodes and an overall map of the cluster. Monitor nodes also keep a history of changes performed to the cluster. SUSE recommends a minimum of three monitor nodes.

Gateway nodes translate between your backup server and the SUSE Enterprise Storage cluster. If you have two different backup servers or archive applications (one using object storage and one using block storage), you will need two gateway nodes.

- *For object storage (such as S3 and Swift), use a Ceph RADOS Gateway.*
- *For block storage, SUSE uses iSCSI gateways that enable block and multipathing storage to heterogeneous clients such as Windows and VMware vSphere.*
- *For file storage, use either Ceph File System (Ceph FS) or NFS-Ganesha.*

Admin nodes enable you to make changes to your Ceph cluster. They have the smallest requirements of any of the nodes and can be run as a virtual machine or on repurposed existing hardware, if desired.

You can deploy SUSE Enterprise Storage using DeepSea and Salt. Guidelines are available in the SUSE Enterprise Storage documentation.
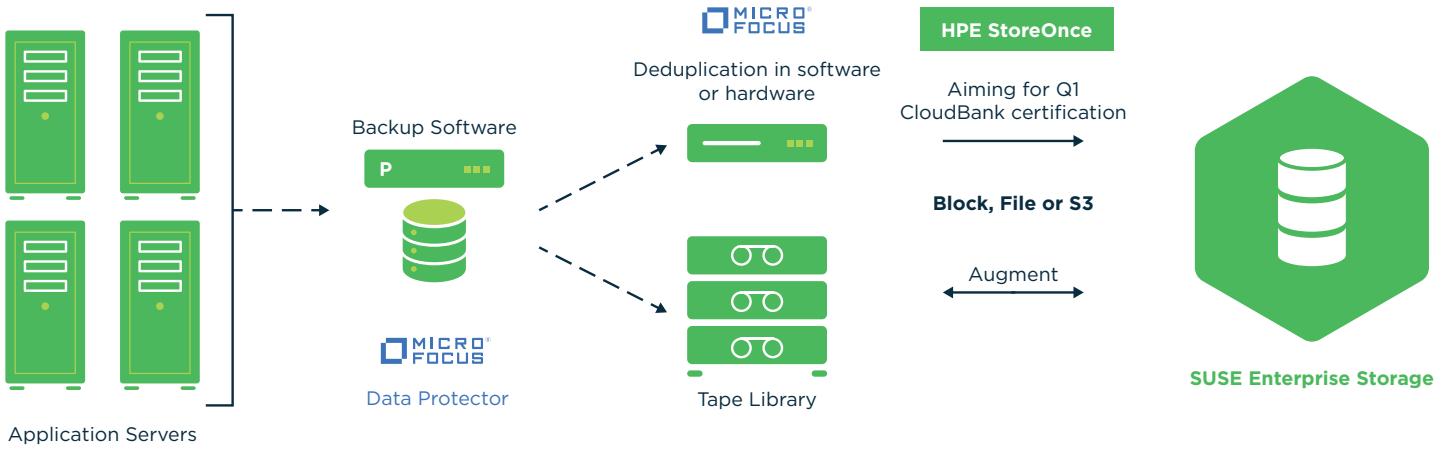
Figure 3. *SUSE storage solution for disk-based backup*

Stay Competitive and Meet Today's Data Storage Needs

Your HPE StoreOnce appliance can continue to be a key component in your storage solution, but today's data growth means it can't work alone. By adding SUSE Enterprise Storage and Micro Focus Data Protector in a multitier architecture, you will be able to manage and control all of the data you need to build your business.

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