Cost-Effective and Scalable SUSE® Enterprise Storage with DiskProphet Data Loss Protection

With unstructured data multiplying at an unprecedented rate, enterprises are looking for innovative and cost-efficient storage solutions to cope with this challenge. Using SUSE® Enterprise Storage as the disk target of a backup solution, organizations can decrease TCO and scale simply and easily into petabytes of data and more. Businesses must also consider how to manage data loss prevention. With the addition of ProphetStor DiskProphet®, enterprises can move from a reactive to a service-aware, proactive position.

ProphetStor DiskProphet at a Glance:

A patented and intelligent data analytics solution that addresses the problem of data loss prevention in a unique way:

+ *Predictive analysis of disk failures*
+ *Reporting and open REST APIs*

■ **Products:**

  SUSE Enterprise Storage

Cost-Effective and Scalable Option for Enterprise Backup

SUSE Enterprise Storage enables IT teams to transform their enterprise storage infrastructure to deliver a unified and highly scalable storage solution that is cost-efficient and able to seamlessly adapt to changing business and data demands. As an intelligent software-defined storage solution, SUSE Enterprise Storage delivers a self-healing and self-managed distributed storage cluster designed to scale from hundreds of terabytes to petabytes and beyond. Leveraging industry-standard server and storage building blocks, you get the cost-efficient infrastructure you need with the unlimited scalability your business demands, with no vendor lock-in. SUSE Enterprise Storage improves efficiency and automatically optimizes operations with intelligent, self-healing, self-managing distributed storage—enabling organizations to support more capacity per storage administrator and spend more time focused on delivering value.

Another benefit of SUSE Enterprise Storage is that it simplifies the backup environment by appearing to the backup server as a simple, monolithic target—as an iSCSI interface, an S3 gateway or even a POSIX-standard filesystem. The operator of the backup software is not required to know the details of the storage configuration, making administration that much easier.

Innovative Visibility, Analytics and Intelligence

From scale-up SANs and scale-out NAS to hyper-converged storage, storage systems have one thing in common: disks. Disks are the foundation of storage systems and rely on techniques such as RAID to protect the data residing on them. However, when failure occurs, a necessary recovery is time consuming and expensive, which affects

An intelligent software-defined storage management solution, powered by Ceph technology, that enables organizations to deliver a unified, highly scalable, resilient and enterprise-grade storage infrastructure that is able to seamlessly adapt to changing business and data demands.
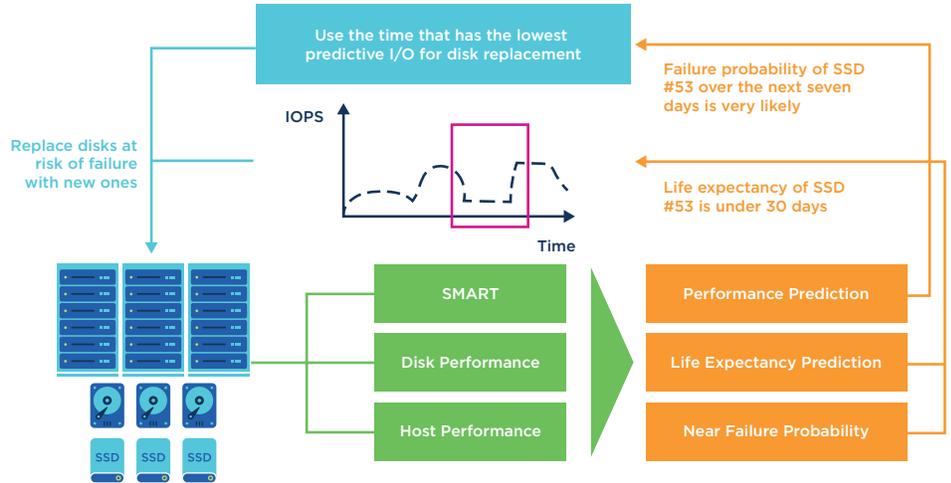
the quality of service that the storage system provides.

ProphetStor DiskProphet continuously collects data from traditional hard disks and solid-state disks (SSD) not only to predict behavior, but also to provide actionable insights. Through state-of-the-art machine learning, DiskProphet accurately predicts the expected life span and likelihood of storage element failure before it occurs. And, it predicts performance characteristics to identify the best time for disk replacements, minimizing the impact on quality of service.

Simplicity Realized

SUSE Enterprise Storage is a self-healing, self-managing cluster. The storage system provides built-in fault tolerance, ensuring that you won't lose data if a drive fails or a server goes offline. The self-healing, self-managing nature of SUSE Enterprise Storage further minimizes management expense. A typical SUSE Enterprise Storage cluster enables a single admin to administer up to five petabytes of storage—over six times the standard rate commonly used for an equivalent block storage scenario in typical enterprises.

SUSE Enterprise Storage also keeps upgrades manageable, with improved performance as the storage subsystem grows. When there is a need to scale the disk target, simply add another server node to the

Use the time that has the lowest predictive I/O for disk replacement

Replace disks at risk of failure with new ones

IOPS

Time

Failure probability of SSD #53 over the next seven days is very likely

Life expectancy of SSD #53 is under 30 days

SMART

Disk Performance

Host Performance

Performance Prediction

Life Expectancy Prediction

Near Failure Probability

Disk Prophet helps administrators plan disk replacement schedule based on disk failure and I/O prediction

Figure 1. *Shows how DiskProphet operates.*

cluster and SUSE Enterprise Storage integrates the new server and distributes the workload. As the size of the storage cluster increases, the aggregate bandwidth of the storage solution also scales linearly. This means you see increased performance in your backup solutions, even for large deployments, without paying a premium.

SUSE Enterprise Storage offers your backup environment overall lower cost. Due to node-based pricing, especially when paired with storage-dense servers (with a much higher disk count vs traditional servers), the overall price per GB stored rivals that of public cloud providers—including

hardware costs! And, because of the lower cost, backup administrators have the option to store more data on-premises, as opposed to moving it offline to tapes, enabling them to serve their end users more effectively with better SLAs.

Combined with DiskProphet, enterprises have a scalable, self-healing, distributed and easy-to-manage solution that can meet unstructured data needs now and into the future.

PROPHETSTOR

SUSE