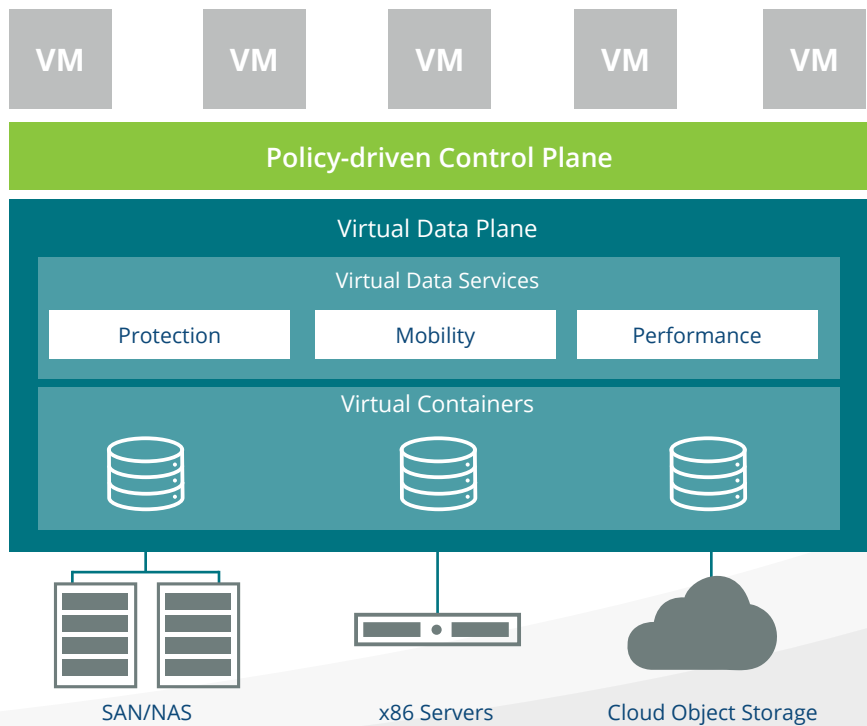**WEI**
Dedication meets innovation.

DYNAMIC, POLICY-DRIVEN STORAGE RESOURCE MANAGEMENT

SOFTWARE DEFINED STORAGE OVERVIEW

The power of software-defined storage (SDS) lies in separating hardware and data services from management to optimize costs for midsize businesses, remote sites, and cloud service providers. SDS goes way beyond Storage virtualization. It provides a scalable, cost effective pool of storage designed to serve the needs of the growing Data Center. An SDS solution provides breakthrough speed in data access while providing continuous, protected data availability. SDS will soon play a major role in your datacenter and it is a key stepping stone of the software defined data center (SDDC) whether in the cloud or on premise.

| VM | VM | VM | VM | VM |

Policy-driven Control Plane

Virtual Data Plane

Virtual Data Services

| Protection | Mobility | Performance |

Virtual Containers

SAN/NAS   x86 Servers   Cloud Object Storage

WHY YOU NEED IT

Unify disparate storage technologies

Pools and protect storage resources

Flash Speed Performance

Provides elastic capacity

Reliable--Built in Tolerance for Failure

Continuous Data Availability

SOFTWARE DEFINED STORAGE ADDRESSES IT ISSUES

Resource Constraints

In today's highly complex data centers, IT teams are faced with a shrinking pool of resources to manage in even more complicated data centers. Most organizations have multiple sites and deploy workloads both on premise and in the cloud, for a hybrid approach that makes managing storage even more complex.

Performance

The pace of business increases relentlessly, and users demand speed and performance equivalent to flash storage. Many IT groups are moving toward SSD (solid state drives) as their budgets allow, but the majority of companies field a mix of traditional storage from multiple vendorsl. This makes storage management complex as IT seeks to juggle the complexities of competing demands and varying standards across an increasingly disparate landscape.

Scalability

Scalability is also of paramount importance as peak workloads vary by locations and application. IT is challenged to optimize storage allocation for constantly changing demands across key business applications across hardware and virtual desktops and servers.

Reliability

In this fast paced environment, failure is not an option. Reliability is crucial, and IT needs storage solutions that keep working even in the face of failure of a node, disc, rack, host, network or any device. Synchronous replication and self healing clusters

BUSINESS DRIVERS OF SDS

Simple Migration

Disaster Recovery and Business Continuity

Capacity Expansion without Disruption

Simplified Management

Ability to use any type of storage

Automation of complex storage operations

BENEFITS OF SDS

With all those challenges—not to mention budget constraints—IT needs a solution that is easy to deploy and that has the built in intelligence to manage routine policy decisions without manual supervision. At the same time, it must provide insight into current status, and allow fast simple overrides and configuration changes on the fly to respond to current conditions. It must be cost effective, with a low TCO. It's a tall order.

SDS combines all available storage into one cost effective storage pool, optimizing utilization of expensive hardware. This SDS storage pool scales as your needs evolve and allows for the addition of new storage on the fly without downtime or complicated installation. Storage now becomes a shared resource, able to support variability of workloads across the entire organization.

WEI SOLUTIONS

WEI has relationships with all of the top IT vendors. For SDS specifically, WEI has found two solutions that are particularly good, VMware VSAN and HPE VSA. These are two of the most advanced SDS products available.
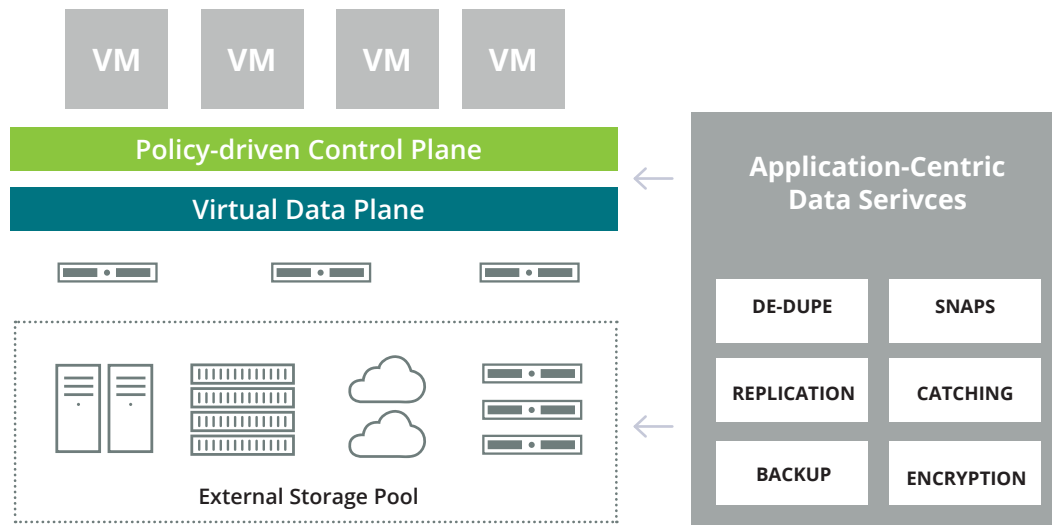
VMware VSAN
VMware Virtual SAN is a radically simple, enterprise-class shared storage solution for hyper-converged infrastructure optimized for today's all-flash performance.

VSAN Delivers:

- Radically Simple Storage
- Advanced Availability and Management
- Enterprise-Ready Storage
- 50% Lower TCO
- Exceptional Performance
- Linearly Scalable Storage

VMWARE APPPROACH TO SOFTWARE DEFINED STORAGE

HPE VSA creates a shared storage array from internal or direct attached storage devices and it is optimized for Microsoft Hyper-V and VMware vSphere environments. It's ability to use internal storage as part of the array simplifies storage management and helps keep costs low, while built in sub-volume tiering helps optimize unpredictable workloads. You can add storage on the fly without compromising performance, and it includes built in performance monitoring and disaster recovery tools. The administrator console allows management of both physical and virtual storage regardless of the location.

HP's SDS, based on HPE StoreVirtual technology, runs within VMware vCenter, Microsoft Hyper-V or Linux KVM environments on the same server running your virtualized applications. SDS uses scale-out iSCSI SAN technology to provide capacity to any physical or virtual server on the network and includes advanced data services such as auto-tiering, storage federation and storage clustering. Enhance and simplify virtualized client or server projects as well, for ITaaS solutions.

"Increasingly, users will look to software-based platforms as the medium to store data in a cost-effective manner, especially as the datasets get bigger."

— IDC's Worldwide Software-Based (Software-Defined) Storage Taxonomy, 2013 —
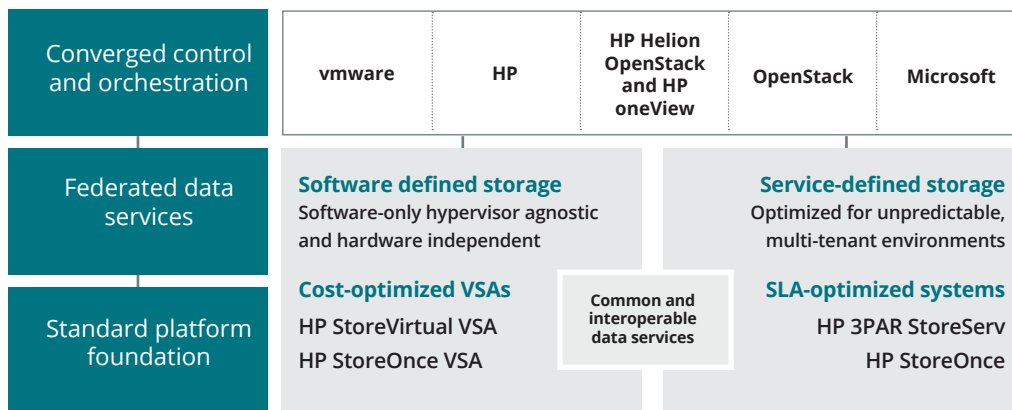
IMPLEMENTATION INSIGHTS

Since both of the top solutions allow installation on any server running VMware or Microsoft Hyper-V and both can manage remote sites, it's a simple matter to deploy in any location that makes sense for IT. However, for convenience, flexibility and accessibility, it makes sense to deploy either solution in the cloud. The single pane of glass management console allows complete control of all management, provisioning and deployment functions, so remote storage management becomes even more convenient in the cloud.

Most experts recommend avoiding the use of meta data controllers or traffic cop applications such as regional controllers because they can become a single point of failure that can disrupt the entire VSAN or degrade performance. Make sure you don't add anything that will erode the resiliency of your deployment.

You should also begin with the end in mind. Just because you are starting with a VSAN that is completely internal doesn't mean it will always stay that way. Don't make decisions that will limit your ability to go external in the future.

Before deciding on any implementation strategy, it's a good idea to talk with experts who have managed projects such as yours multiple times. Their expertise can prove invaluable in avoiding "gotchas" and ensuring optimum performance.

Converged control and orchestration	vmware	HP	HP Helion OpenStack and HP oneView	OpenStack	Microsoft
Federated data services	**Software defined storage** Software-only hypervisor agnostic and hardware independent			**Service-defined storage** Optimized for unpredictable, multi-tenant environments	
Standard platform foundation	**Cost-optimized VSAs** HP StoreVirtual VSA HP StoreOnce VSA		**Common and interoperable data services**	**SLA-optimized systems** HP 3PAR StoreServ HP StoreOnce	

HP Converged Storage for the SDDC

ABOUT WEI

WEI is an innovative, full service, customer centric IT solutions provider.

Why WEI? Because we care. *Because we go further.*

At WEI, we're passionate about solving your technology problems and helping you drive your desired business outcomes. We believe in challenging the status quo and thinking differently. There are a lot of companies that can take today's technology and create a great IT solution for you. But we do more. We go further. And we have the customer, vendor and industry awards to prove it. WEI is a premier technology partner, who always puts our customers first while providing the most innovative solutions for over 25 years.

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