



## Sun StorEdge 6920 — Solving the Paradox of Storage Consolidation

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### Storage Consolidation

Life is full of paradoxes. The older we get, the less we seem to know. Big wins come from taking big risks, but so do big losses. Children want so much to be grown-ups, and grown-ups sometimes wish they could be children again. Technology makes life easier, but it also speeds it up! Socks that lose their match are rarely reunited, and nobody knows where they go!

Storage consolidation is also a bit of a paradox. It replaces many discrete islands of storage with a unified pool, making the storage infrastructure easier to manage, more adaptable (i.e., flexible and expandable to meet changing requirements), and better utilized. It is a more economical approach. However, **this unified pool should not merely deliver the same storage service level to everybody. “One size fits all” does not work. It must be able to meet different requirements for different applications and for data at different points in their respective lifecycles.** This means creating partitions or tiers that are tunable for different workloads – without losing the one-ness and adaptability of consolidation. **In other words, consolidated storage has to be unified and diversified at the same time. If this seems like a paradox, it is. It also requires advanced technologies to do it well.**

### Sun StorEdge 6920

The Sun *StorEdge 6920* is a networked storage system with features that address both ends of the storage consolidation paradox.

#### *Diversification Features*

Its features for *diversification* include:

- **Multiple host servers** – The more servers that can share a centralized storage platform, the greater the consolidation benefit. A StorEdge 6920 provides storage to as many as 1,024 heterogeneous servers over a SAN. Maximum capacity is 65 TB internally and 256 TB when external arrays are attached. It scales to 28 Fibre Channel host ports and 28 GB of cache for performance. The supported host operating systems are *Windows, Linux, HP-UX, Sun Solaris, IBM AIX*, and, shortly, *Novell NetWare*.
- **Multiple storage arrays** – A remarkable feature of the StorEdge 6920 is its ability to consolidate more than just itself. It can incorporate external storage arrays into its virtualization and management scheme, even third-party arrays. It is like grafting branches into a fruit tree. This capability

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extends the benefits of consolidation over a larger infrastructure. Enterprises can get more use out of existing storage assets this way. It also enables a wider range of storage tiers. For instance, an external array with ATA drives could provide low-cost capacity for archiving. The current list of supported external storage includes Sun StorEdge 6130, 6120, 6320, T3, 3510, 3511, 9910, 9960, 9970, 9980, EMC's CX400 and CX700, and HP's EVA3000 arrays.

- **Multiple storage tiers** – Storage tiers with different price/performance characteristics are the foundation of an infrastructure that serves diverse enterprise requirements. The StorEdge 6920 can subdivide into as many as 64 partitions or tiers that span both internal and external storage. These tiers are like virtual storage arrays with distinct, independently-configurable allocations of drives, cache, and host ports. Since they are isolated from one another, applications in different tiers do not compete for system resources and experience more predictable performance. They also can align with *Solaris* containers for end-to-end virtualization of the server, operating system, and storage environment.
- **Multiple Storage Profiles** – 16 pre-defined and tested Storage Profiles are available. These are sets of I/O parameters that specify RAID level, segment size, stripe size, etc. for applying to storage tiers. Storage Profiles are tuned for particular application requirements, such as file servers, high-performance computing, and specific vendor applications like Oracle and SAP. They are customizable too. Storage Profiles make provisioning simpler and more consistent, both upfront and as requirements evolve.
- **Multiple data services** – It also offers various data services applicable on a per-volume basis. They include synchronous and asynchronous replication, consistency groups, full point-in-time copy, snapshot (or differential) copy, and path failover and load balancing. They enhance the availability, recoverability, and usefulness of stored data.
- **Multiple service levels** – Storage tiers plus I/O profiles plus data services equal storage

service levels. Since the StorEdge 6920 has the first three factors, it can deliver storage service levels to the business. Service levels are expressed in terms that applications and users experience: capacity, performance, availability, recoverability, and cost.

### Unification Features

The features for *unification* include:

- **One pool of storage capacity** – All internal and external capacity is part of a single storage pool, so enterprises have full benefits of consolidation. All capacity is accessible over the SAN (single front), though it is partitioned and securely allocated per server. Administrators can add and reallocate capacity dynamically among the tiers and volumes (single resource).
- **One set of data services** – While the StorEdge 6920 offers multiple *types* of data services, they are all applicable to whole the storage pool. In other words, it has the consistency, simplicity, and cost-effectiveness of a single *set* of data services, as opposed to multiple services running on different servers and storage arrays.
- **One point of management** – Administrators can manage the storage pool and data services centrally with Sun's tools. Therefore, each administrator can handle more terabytes, which lowers management costs, the largest component of storage TCO.

### Conclusion

The StorEdge 6920 has a strong set of capabilities for delivering multiple tiers and service levels in a unified environment. Its size and pricing is suitable for both large- and mid-scale IT operations. While the platform works exceptionally well with *Solaris*, it is also proficient with Windows, Linux, and other Unix operating systems. **So, if you want to solve the paradox of storage consolidation in a heterogeneous data center, Sun's StorEdge 6920 stands out as a worthy choice to consider.**



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