Software defined storage (SDS) delivers an innovative new way for IT administrators and decision makers to deploy storage at the datacenter using standard server, storage and networking components. Dell Storage with Microsoft Storage Spaces is no different, leveraging Dell server and storage hardware and the Microsoft Windows Server™ 2012 R2 OS.

Ensuring that all solution components work together as intended can introduce significant administrative and management overhead— even downtime. To optimize the SDS experience using Microsoft Storage Spaces technology, Dell has developed the Dell Storage with Microsoft Storage Spaces family of storage components that can function as building blocks for individual, customer installations, but also as the foundation for turn-key solutions.

Dell Storage with Microsoft Storage Spaces is designed with flexibility in mind, but also built to ensure that only validated and tested combinations or components are used for the storage stack.

What is Dell Storage with Microsoft Storage Spaces?

Dell Storage with Microsoft Storage Spaces is a Scale-Out File Server (SOFS) solution, consisting of tested and optimized combinations of Dell Storage MD14x0 series, Dell PowerVault MD 3060e storage enclosures and Dell PowerEdge servers as storage nodes. SOFS solutions are ideally suited for customers with either existing compute environments, or new customers that want to maintain a great level of control for their workloads and compute infrastructure.

Dell Storage with Microsoft Storage Spaces is attractive for customers with varying workloads, including Private Cloud deployments (with Microsoft Azure), VDI, SQL, Hyper-V, or as a storage target for backup and recovery.

The validated building blocks of the Dell Storage with Microsoft Storage Spaces offering provide an end-to-end solution for the customer, starting with performance and capacity sizing, factory fulfillment, world-wide deployment, and finally complete solution level support. Carefully designed management tools...
allow for cluster aware end-to-end firmware updates with a single payload for storage enclosures and storage nodes. The use of standard Dell and Microsoft management tools make integration into existing environments easy and intuitive.

Dell Storage with Microsoft Storage Spaces scales to 1PiB of raw storage in a single cluster but is flexible enough to let customers start small and grow as their business needs increase.

Using validated building blocks in your SDS solution

Dell Storage with Microsoft Storage Spaces implementation use cases ranges from completely custom solutions to turn-key products.

Customer “a la carte”

Dell Storage with Microsoft Storage Spaces lets customers configure and tune their solution for levels of performance, capacity and availability as needed. Dell provides sizing guidance, a clear best practices guide and a detailed deployment guide. While maintaining maximum flexibility, customers can rest assured that only validated and tested building blocks are used.

Partners and Dell Professional Services

For those developing custom solutions for customers that address specific needs or vertical workload requirements, Dell Storage with Microsoft Storage Spaces is of great benefit as it takes any uncertainty out of the SOFS storage portion of the solution. Partners and Dell Services can build complex solutions on top of validated SOFS building blocks and focus on the workload design, rather than worry about the integrity of the storage component.

Reference Architectures

Customers can chose workload specific solution blueprints and reference architectures (RA) from Dell that also benefit from Dell Storage with Microsoft Storage Spaces validation much in the same way as Partner and Dell Professional Services solutions do. While providing scalable and customizable workload specific RA’s, a trusted storage building block is used as a plug-in component to ensure a maximum level of integrity.

Turnkey Solutions

FastTrack and complete turnkey solutions provide the easiest way to address workload specific implementation needs and fast turnaround. In the turnkey approach, Dell Storage with Microsoft Storage Spaces is the validated storage component working as part of a fine-tuned larger solution.

Dell is extending the value proposition of Microsoft’s SDS offering

Dell Storage with Microsoft Storage Spaces extends the value proposition of Microsoft’s SDS in numerous ways. In particular, Dell’s end-to-end engagement throughout the lifecycle of the entire solution provides tangible benefits to the customer. Dell stays engaged starting from pre-sales assistance on capacity and performance sizing as well as solution optimization for specific workload all the way through the factory fulfillment and deployment of the solution. A full range of solution support offerings ranging from 3-year NBD (next business day) to Mission Critical 4-hour support worldwide ensure that customers can select support levels based on their business requirements.

Some direct benefits of Dell Storage with Microsoft Storage Spaces:

Sizing

Dell provides performance and capacity sizing for customer specific requirements on IOPS or throughput. Detailed, validated and workload optimized SKU combinations are then recommended to build solutions using standard Dell servers and storage enclosures.

Deployment

Installation and deployment options through Dell Enterprise Deployment Team and professional services are available to complete and validate the deployment on-site. If you choose to do the installation, a comprehensive deployment guide is available to ensure a smooth experience.

Management

Dell Storage for Microsoft Storage Spaces leverages standard Dell and Microsoft management tools and solution updates can be delivered with a single payload for storage nodes through Microsoft Cluster Aware Updating (CAU) and for the storage enclosures using the Dell server Management tool.

Support

Full solution-level support for all components is ensured through Dell’s worldwide support services. More importantly, customer calls will be routed directly through special storage queues for all solution components.
Components

Dell Storage with Microsoft Storage Spaces uses Dell Storage MD1400, MD1420 and MD3060e storage enclosures for the storage component. The SOFS design accommodates from 2 to 4 storage enclosures in a cluster for a total of up to 240 hard drives using the MD3060e. The storage enclosures are connected via 12Gb (MD14x0) or 6Gb (MD3060e) shared SAS (serial attached SCSI). The storage nodes that run the Windows Server OS with Storage Spaces, Cluster Shared Volumes (CSV) and the SMB3 protocol stack using either PowerEdge R630 or PowerEdge R730 servers. The solution supports from 2 to 4 storage nodes per cluster. Dell Storage with Microsoft Storage Spaces offers RDMA (remote direct memory access) for workloads that require high-throughput and low-latency networking. RDMA over Converged Ethernet (RoCE) and iWARP are the supported implementations. Dell has also validated several Dell network switches, but third-party networking is supported as well. In addition, since the Dell Storage with Microsoft Storage Spaces solution is a SOFS architecture it supports a wide range of compute solutions, including PowerEdge servers, FX Architecture and blades.

Conclusion

Dell Storage with Microsoft Storage Spaces is a versatile Scale-Out File Server SDS offering that enables customers to implement flexible storage solutions that meet a variety of performance, capacity and business continuity needs using Microsoft’s Storage Spaces technology. Most importantly, Dell Storage with Microsoft Storage spaces represents a selection of validated and tested components that work in sync, even when deployed in large scale, or with high expectations on performance. Workload and sizing recommendations are in place that streamline the implementation process and ensure that the proposed solution is matched to the business need and actual workload requirements. End-to-end solution support ensures that any support issue is routed directly to a group of expert storage specialists. With a maximum of flexibility, Dell Storage with Microsoft Storage Spaces is a match for SMBs and large Enterprises alike, addressing simple workload needs, or complex hosted solutions.

For more information, go to Dell.com/Microsoft