What Software Defined Storage Can Do For Your Organization

In today's business environment, traditional data storage solutions are struggling to keep up with exponential increases in the amounts of data companies are generating and storing. With IT budgets not growing nearly as quickly as the demand for storage, the old approach of simply purchasing more storage hardware to increase capacity is no longer financially viable.

But now there is an alternative to traditional storage that is steadily gaining favor. It's called Software Defined Storage (SDS), and it provides significant advantages over traditional solutions in terms of both operational flexibility and cost. Because of these benefits, SDS is being adopted by a growing number of companies, both large and small.

What Is Software Defined Storage?

The key feature of SDS is that all the intelligence and sophistication of the system is lifted out of hardware and into a software layer that manages the entire storage infrastructure. Leading solutions include Nutanix, VMWare vSAN, and Dell's Scale IO. SDS is sometimes referred to as a "storage hypervisor" and typically includes a form of storage virtualization to separate the storage hardware from the software that manages it. Therefore SDS is hardware agnostic, meaning that because the system is software controlled it works the same no matter what particular disk drives or storage arrays are employed. In fact, different storage technologies can be mixed in the same system, allowing the software to decide which should be used for particular applications. For example, with workloads that require a high rate of real-time I/O performance, such as online transaction processing, the SDS software might allocate fast but expensive solid state drive (SSD) arrays. On the other hand, an application with lower performance demands, such as an employee records database, might be served by slower but less costly hard disk drives (HDDs).

Benefits of SDS

Perhaps the biggest advantage of the software defined model is its cost effectiveness. SDS systems are designed for use with inexpensive commodity storage hardware rather than the costly proprietary storage appliances that traditional storage solutions require.

This approach also makes SDS more reliable than traditional storage. It is assumed that the off-the-shelf commodity hardware SDS is designed to employ will fail at relatively high rates. So, stored data is replicated to several different drives so that if one fails, the software can automatically redirect I/O requests to another drive where a copy of the data is stored. Normally this happens so quickly that users never realize that a failure took place.

The SDS software completely controls each of its attached hardware devices according to policy directives specified by storage administrators. This provides several important benefits.

First, there's a significant reduction in operational and management complexity. Users interact with the entire storage infrastructure through a standardized "single pane of glass" software interface. There's no need for them to know or care about the specific hardware being used, or even where in the world individual storage devices are located. Plus, there's less need for expert IT staff to manage and support the storage system.

Secondly, flexibility is greatly increased. As business conditions change and more storage is required, the software can automatically scale in capacity by bringing additional storage units online as needed. This can usually be done in seconds, without disrupting ongoing operations.

As important, because the SDS software controls all elements of the system, specialized features can be implemented at the software level rather than having to be done for each hardware device. For example, a state-of-the-art data backup and disaster recovery system can be instituted once in software, and applied to a company's entire storage infrastructure, even if the physical storage units are widely dispersed in different geographical locations.

What Can SDS Do For Your Organization?

SDS offers an opportunity for a company's data center to gain superior operational capabilities and flexibility while decreasing management complexity and lowering overall costs. With such benefits, it would pay any business, large or small, to seriously explore how SDS can work for them.

Contact **Winter Dog** for a consultation on your storage needs and determine if SDS is right for you.