SQL Server Infrastructure is business-critical

SQL Server is the engine that drives the access to business data for many applications including web store fronts, accounting systems, customer care systems and sales tools. This has caused deployments of SQL Server to multiply rapidly.

Meeting service levels for database performance and availability is crucial to keep businesses running. As systems relying on databases proliferate and the underlying data sets grow, storage system performance often becomes the bottleneck. This can lead to the purchase of expensive storage options which can increase operational complexity and costs as well.

A related trend which exacerbates these problems is virtualization. In an attempt to drive up IT efficiency and reduce server sprawl, companies are virtualizing servers running database and other workloads and then combining them into fewer hosts. This increases utilization and reduces server maintenance but it can increase the storage challenge. Varied applications have disparate performance needs. Workloads can heat up at different times of the day. Performance tuning and SLA compliance become even more complex.

A variety of approaches

In addressing the performance challenge several approaches can be pursued. Stacking your virtualization host with extra memory or an SSD cache card can have some benefit. The challenge with both of these approaches is that they can be expensive and only accelerate one physical server at a time. The benefits of mobile virtualized workloads won’t be realized unless these expensive resources are deployed in any server that might serve up these workloads. Another approach is to deploy an SSD-based storage array. This will benefit the workload independent of what server it is running on. The challenge is that not only is it expensive (typically need to purchase fully populated arrays or trays) but manual tuning is required to assign performance-sensitive files to the SSD. This involves complex analysis with advanced tools to determine which files to move to the SSD. This is a slow, static, error-prone approach.

Automatic data tiering with Dell EqualLogic XVS

Dell™ EqualLogic™ PS Series XVS arrays present a better option for meeting service level agreements while helping reduce costs. The PS6000XVS and PS6010XVS are high performance SAN arrays that combine low-latency SSD and 15,000 RPM SAS drives within a single enclosure. The XVS continuously analyzes I/O to the data stored on it at a sub-volume level. The sub-volume elements are categorized as high I/O, medium I/O, or low I/O, and then dynamically placed on either SSD or SAS tiers as appropriate. This automated tiering of data on the XVS array simplifies the optimization of database performance and provides an agile, shared storage infrastructure for your business-critical applications that is always adapting to the current needs of workloads.
Reduce capital expenditures

EqualLogic PS Series arrays provide virtualized storage to help enable the consolidation of IT infrastructure. The modular scale-out architecture allows the incremental purchase of storage reducing up-front costs. Tight integration with virtualized environments and thin-provisioning enable the reduction of server and storage purchases, resulting in the elimination of wasteful over-provisioning. Automatic data tiering with the XVS arrays reduces the need for dedicated SSD or server memory infrastructure, and efficiently uses the SSD resources by not requiring the movement of entire volumes to SSD. SAN-based operations reduce CPU and network loads leading to more efficient use of expensive server and LAN resources.

Meet Service Levels for Business Continuity and Disaster Recovery

Hot swappable, redundant components with RAID protection provide high database availability. Simple scheduling of space-efficient SAN snapshots allows the easy creation of consistent read and writable point-in-time copies of database, application, hypervisor and configuration data. Backup with Microsoft® DPM or other third party tools can be facilitated by snapshots through the EqualLogic VSS provider. In the case of a logical corruption or an outage, the SQL Server® database can easily be restored instantly from a prior snapshot using Auto Snapshot Manager / Microsoft Edition (ASM/ME) which is integrated with SQL Server® and is fully supported in both physical and virtual environments. Disaster recovery plans are facilitated through SAN-based replication which is provided at no extra charge with every EqualLogic array.

Ideal SQL Server storage platform

Dell EqualLogic PS Series arrays are designed to deliver high-performance, highly available and cost-effective storage for SQL Server® database deployments – supporting departmental to mission critical applications. The XVS arrays’ advanced data protection, simplified management and automatic storage tiering make it the ideal storage platform for SQL Server database environments that require maximum availability and flexibility. The Dell EqualLogic storage solutions for SQL Server® databases can allow organizations to reduce capital and operational expenditures, maximizing return on investment.

Explore more storage solutions at www.dellstorage.com