Integrated Continuous Data Protection for SQL Server using Microsoft Data Protection Manager (DPM) 2007

DS5000 Solutions Guide

Business Challenge

Your business is growing and with that growth is the expectation that the IT services your business relies on will mature as well. With the release of SQL 2008 it is time to examine what service levels are expected of your IT organization. When your business was small, outages only impacted a few employees, and you were able to accommodate the needs of IT in order to take systems offline, and endure backup windows which were the accepted practice. Now a backup window is unacceptable, operations are 7x24, and those transactions that are being reconciled in the middle of the night are often critical to tomorrow's operations.

Meet your Service Level Agreements

(SLA) with ongoing protection of your critical Microsoft business applications; SQL Server, Exchange, SharePoint as well as file protection.

Every transaction is important!
Change your RPO (Recovery Point Objective — how much data you are willing to lose) from 24 hours with nightly tape backups to practically zero. Move your RTO (Recovery Time Objective — how long till your business is back in operation) from hours or days to minutes!

Protect not only your corporate information assets but your corporate leadership as well. The leadership of public companies of all sizes is under increasing pressure to protect corporate information assets in a cost effective, responsive manner that will grow as the business expands.

Empower your (DBAs) to manage recovery on their own! No one in your company knows the details of your SQL Server like your DBA(s). Provide the infrastructure that empowers them to protect critical SQL information directly, in a paradigm that is application centric, not storage centric. Also they will be able to execute high speed restores directly from disk, anytime day or night. With Microsoft Data Protection Manager enabled by IBM series DS3000, DS4000 or DS5000 scalable storage systems, you will have an infrastructure that eliminates internal finger pointing between data base administrators and storage administrators by enabling the DBA to backup and restore in a paradigm they are familiar with, the
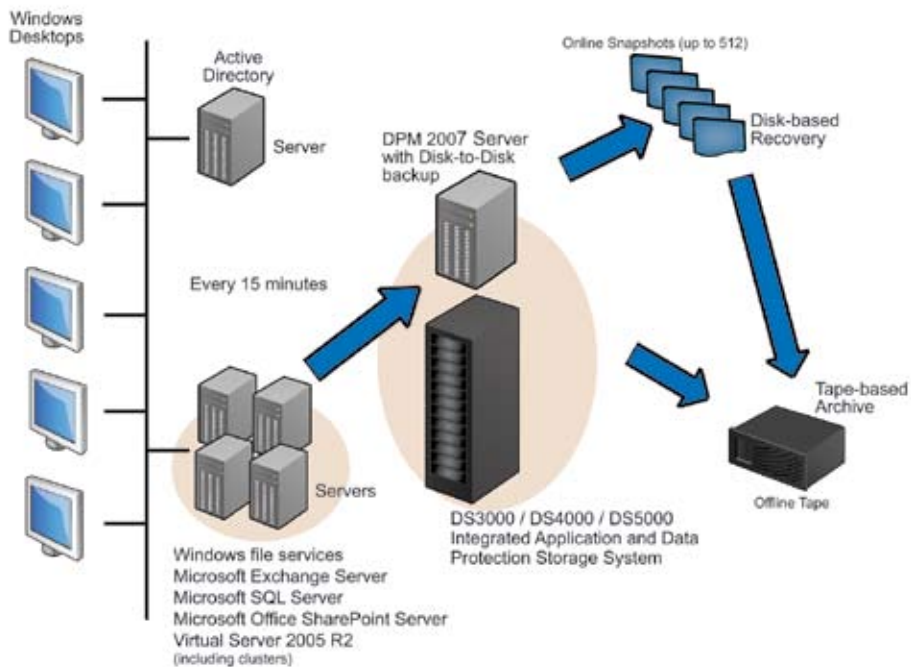
SQL Server Application. This same infrastructure architecture will allow Exchange and SharePoint administrators to manage their applications in an application centric manner as well with increased efficiency gains across the entire Microsoft Application suite.

> *"When deploying the new Microsoft SQL Server 2008 be sure to put in place an integrated, easy-to-use data protection architecture!"*

The IBM DS3000/DS4000 series Integrated SQL Solution

From a business perspective, it's not about the backup, the restore is what matters. In today's world the recovery operations have to happen at record speed to keep business functioning. As an application integrated solution, the IBM DS-series storage with Microsoft DPM provides a complete data storage and data protection system, capable of restoring individual Recovery groups, or even the last committed SQL transaction. Further the solution is also capable of protecting other Microsoft core business applications, namely Exchange, SharePoint, and file system data. This solution not only provides high performance, but also integrated protection and data management through handling of disk-to-disk and disk to-tape backup, as well as tape archives.

Easy, scalable and integrated data protection for your entire Microsoft application environment. Unique drive intermix feature to optimize both performance and data protection storage.

Sizing	Infrastructure	Storage	Server	Software	Notes
Smallest	DAS/SAS	DS3200	IBM x-series	MS DPM	Self contained system, app and protection
Small	iSCSI	DS3300	IBM x-series	MS DPM	Separate Servers, Shared iSCSI Storagecti
Small	Fibre Channel	DS3400	IBM x-series	MS DPM	Servers & Shared Storage on small FC SAN
Medium	Fibre Channel	DS4700	IBM x-series	MS DPM	Mid-range FC Multi-application protection
Large	Fibre Channel	DS4800	IBM x-series	MS DPM	Large scale FC Multi-application protection
Largest	Fibre Channel	DS5000	IBM x-series	MS DPM	Largest Scale FC Multi-applicaton protection

How to Buy

Information on how to purchase Microsoft Data Protection Manager (DPM) can be found at http://www.microsoft.com/systemcenter/dpm/howtobuy/default.mspx

For File only protection use the DPM basic, for SQL Server, Exchange and SharePoint application protection use DPM Enterprise.

Needs Analysis

Obviously one size does not fit all. If however, any of the following describes you or your business then take a closer look at protecting and perhaps even running your SQL Server production environment on DS3000, DS4000 or DS5000 storage solutions from IBM.

- Need to protect SQL and other Windows applications using a low-cost, integrated and easy-to-use application centric data protection solution
- Microsoft SQL Server is business critical
- Need to do more frequent SQL backups, improving recovery point objectives (RPO), and meet objectives to improve recovery time (RTO)
- Increase SQL service levels while lowering administrative and downtime costs
- Enable DBAs to recover data quickly in the event of application failure or data corruption (e.g. virus, hacker, sabotage)
- Reduce risk when migrating from SQL Server to SQL Server 2008

Benefits

The DS3000, DS4000 and DS5000 all provide benefits both in data protection applications as well as high transaction rates. IBM Scalable storage provides:

- Outstanding high-performance block level storage that scales with SQL Server and helps meet or exceed service level agreements
- Entry-level, low-cost direct-attached DS3200, supports up to six servers with shared storage without requiring storage network skills
- Choice of networked storage interface Fibre Channel or iSCSI as well as either high performance Fibre Channel or SAS drives or low-cost high capacity SATA drives, to match the SQL server requirements

- One of the lowest TCO in the industry derived from one-time software licensing fees, flexible and simple storage management and fast time-to-provision
- Ability to scale up in capacity, capability and performance with the DS4000 or DS5000 series if needed for larger installations or mixed SQL application and DPM data protection storage.

Best in class performance
- Easy-to-use and intuitive storage management software, common across the DS3000, DS4000 and DS5000 family
- Dynamic Features enable flexible storage management with very fast provisioning times
- Hardware (ASIC) based controller architecture delivers outstanding block-level storage performance across all load and capacity ranges as opposed to software-based RAID implementations

Reach your performance objectives with flexible storage systems from IBM.

Your Business Infrastructure has a job to do, and you have an SLA to deliver. Deliver it securely and cost effectively as a total solution featuring Scalable Storage DS3000, DS4000 and DS5000 from IBM. Common transactional systems require sustained storage I/O operations (IOPs) to complete in under 20 milliseconds for reasonable performance. Independent studies show that for a given protected storage level, IBM consistently delivers performance levels with fewer disk drives, saving you money in both now in the purchase price and in the future with fewer drives to power, and cool. Now you can go green, and save money buy going with the leader, IBM.

DS3000/DS4000/DS5000 Efficiency Gains

DS3000/DS4000/DS5000 Efficiency Gains