FalconStor®
Defining Data Protection, Again.™

Managing Enterprise Backup/Recovery
Using FalconStor VTL to Enhance IBM Tivoli Storage Manager

COMPLEMENT & ENHANCE IBM INFRASTRUCTURES

FalconStor and IBM have worked together for years to develop data protection and storage solutions that offer the highest levels of performance and reliability. When used in combination, FalconStor® Virtual Tape Library (VTL) technology and IBM Tivoli Storage Manager (TSM) software enable users to efficiently manage enterprise backup/recovery operations. FalconStor VTL enhances TSM's already-powerful storage management platform, delivering a reliable, efficient, and highly scalable solution that combines storage, backup, clustered global deduplication, and replication for rapid recovery.

INTEGRATION WITH FLEXIBILITY

FalconStor VTL technology seamlessly integrates into an existing IBM TSM environment. When FalconStor VTL is used in conjunction with IBM TSM, storage devices are treated as streaming devices, allowing for more sequential writes to a disk layer. This gives organizations the flexibility to substitute tier-one disk with lower-cost disk. The result: higher performance TSM functionality, transparent to the TSM application, at a lower overall cost.

FASTER, MORE RELIABLE BACKUP & RECOVERY

With FalconStor VTL, TSM clients and agents can send large files, including databases, directly to virtual tape, bypassing the disk pool. This eliminates potential network congestion, speeds backup, and optimizes performance. During backup, load times for tapes are reduced to less than one second. During restore, FalconStor VTL eliminates physical tape mounts, enabling the restore to be completed quickly. In addition, FalconStor VTL eliminates the errors associated with physical tape, ensuring the reliability of the backup process.

CLUSTERED GLOBAL DEDUPLICATION

FalconStor VTL provides flexible global deduplication that scales to over 2PB of usable physical storage. Policies for replication, archiving, and deduplication can be assigned to individual jobs according to each IBM TSM environment's unique needs. For example, you can select from four different deduplication policies: Inline, post-process, concurrent, or no deduplication. FalconStor VTL then replicates this data from across the organization to a central site, aggregating it into a clustered repository of globally unique data components.

EXTEND THE LIFE OF TAPE

FalconStor VTL emulates over 30 tape drives and 50 tape libraries, including pSeries and xSeries for IBM TSM. With FalconStor VTL, TSM treats virtual tape exactly as it does physical tape while minimizing load/unload operations during tape rotation. Because the tape life is now based on disk, FalconStor VTL extends the life expectancy of physical tape from approximately one year to several years. (Disk has a life expectancy of 5-7 years in a single drive, and 10-12 years in a RAID 6 set). The increased lifespan reduces the number of tapes needed for rotation.
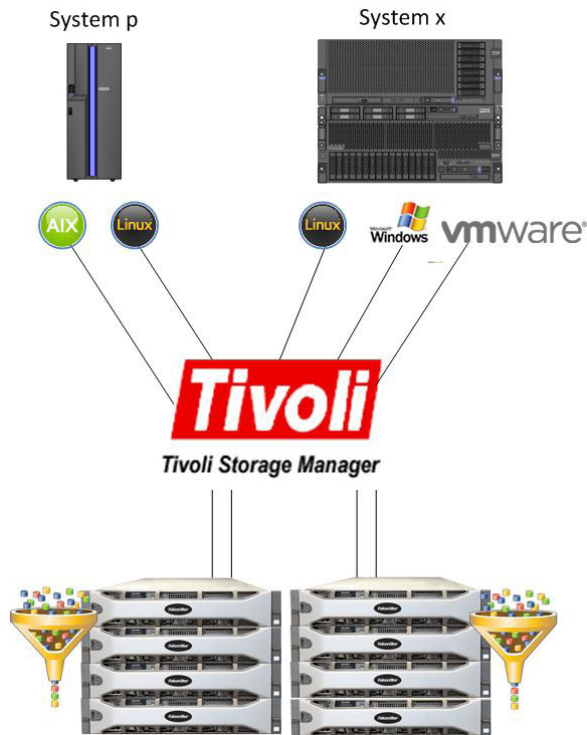
IMPROVE IBM TSM RECLAMATION

IBM TSM transfers backup data to new media continuously to optimize utilization of tape cartridges. However, this activity can become increasingly difficult when dealing with ever-growing disk pool sizes, tape volume sizes, and numbers of tape drives.

Sound familiar?
Enterprise data protection challenges...

- Exploding data growth
  – Data grows at a rate of 50-60% annually
  – Inability to recover data quickly & efficiently from multiple tapes
  – IT resources overwhelmed

- Increasing costs
  – Consumption, shipment, & management of physical tape is costly
  – Mandates to improve data efficiency & reliability on a reduced budget

- Performance challenges
  – Demands to meet recovery times (RTO, RPO)
  – Difficulty meeting backup windows

- Requirements
  – Increasing regulatory compliance requirements
  – Stringent service level agreements (SLAs) = longer retention times

FalconStor VTL for IBM Tivoli Storage Manager

System p
System x

Tivoli
Tivoli Storage Manager

FalconStor VTL enhances TSM reclamation by nearly eliminating mount and positioning times required for each tape, as well as the time needed to locate and reclaim the data. Because FalconStor VTL enables ultra-high speed restores, disk pools can be reduced by as much as 90%, saving time and money.

SIMPLIFIED COLLOCATION MANAGEMENT

When collocation is enabled in IBM TSM, the server attempts to maintain files using a minimal amount of sequential access storage volumes. As this process becomes an ongoing one, it consumes a significant amount of space on tape or disk.

FalconStor VTL makes it easy to establish management policies for the TSM backup database, including enabling users to initiate their own backup and restore operations. It does so by generating concurrent, parallel restores to one or more servers, enabling each server to write to disk over iSCSI.

Benefit Highlights

Non-disruptive integration

- Native emulation of all IBM TSM (pSeries and xSeries) tape drives and libraries
- Supports all IBM TSM backup tools and methods
- Seamlessly integrates with backup policies (appears as a physical tape target)
- Minimal learning curve; easy to manage

Enhances backup & restore

- Eliminates tape shipments; exports to tape based on defined policies & schedules
- Improves collocation & reclamation with faster mount and location times
- Treats backup as a service; enables the creation of self-service workstations
- Retain backup data on capacity-optimized disk for longer periods
- Reduces seek time for rapid recovery
- Minimizes the backup window
- High-performance restore reduces server/ application downtime

Business continuity

- Fast local or remote recovery of systems
- Integrates with IBM TSM business continuance module

Reduces costs

- Integrated data deduplication transmits only unique blocks of data, reducing WAN bandwidth by as much as 90%
- Far more cost-efficient than disk cache- physical tape solutions
- Reduced power consumption and cooling with less storage footprint
- Simplified management controls maintenance costs
- Preserves investments in backup software, personnel, processes
- Shrinks the data footprint

Improves reliability

- Eliminates mechanical, media, and manual errors
- Increases reliability using RAID disk arrays

High performance

- Rapid load and unload times increase overall IBM TSM performance
- Improves write/restore performance across 8Gb FC

Security

- Advanced Encryption Standard (AES) 256-bit encryption
- No host software required

For more information, call 1.866.NOW.FALC, visit
www.falconstor.com/vtl, or email us at salesinfo@falconstor.com

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