

IBM Tivoli Storage Manager and EMC Data Domain Deduplication Storage

The Big Picture

Regain Control of TSM Maintenance Duty Cycle

- Reduce or eliminate TSM maintenance tasks such as migrating data by limiting or replacing the primary disk pool staging area
- Eliminate the need for copy storage pools by utilizing Data Domain bandwidth-efficient replication

Scalable Deduplication Storage

- Fast, Inline deduplication with up to 12.8 TB/hour throughput
- Backup over 100 TB in less than eight hours
- Extended retention providing up to 14.2 PB of logical storage
- 10-30x data reduction

Multi-Site Disaster Recovery

- 99 percent bandwidth reduction
- Cost-efficient disaster recovery
- Flexible replication topologies
- Consolidate backup and DR
- Cross-site deduplication and replication from up to 270 remote sites

Ultra-Safe Storage for Fast and Reliable Recovery

- Data recovery can be reduced from hours to minutes
- Continuous recovery verification, fault detection and healing
- Dual disk parity RAID 6

Operational Simplicity

- Reduce backup complexity
- Simple system administration

Reclaim time from the TSM maintenance duty cycle

EMC adds exceptional value to IBM Tivoli Storage Manager (TSM) backup and recovery environments. The powerful combination of TSM progressive incremental backup and EMC Data Domain deduplication storage systems delivers proven, cost-effective, scalable data protection that leads the industry in performance and efficiency.

TSM progressive backup increases network efficiency, but requires additional time to execute essential maintenance tasks in order to function. Data Domain systems significantly reduce the time needed to move data within TSM, reclaiming cycles for critical maintenance tasks. Additionally, Data Domain systems optimize storage capacity, making retention and replication of backup data extremely cost and bandwidth efficient by providing 10-30x data reduction. Enterprises can now retain months of full and incremental backup data online, lowering the overall cost per gigabyte and accelerating data recovery, while significantly reducing TSM operational data movement.

Traditional TSM data and operational workflow

Figure 1 depicts the traditional TSM data and operational workflow required for progressive backups.

A traditional TSM workflow consists of the following steps:

1. Client application server data is backed up to the primary disk pool staging area
2. Backup objects are copied from the primary disk pool to the copy storage pool for offsite vaulting
3. Data is migrated off of the primary disk pool to the primary storage pool to make room for staging the next night's backups

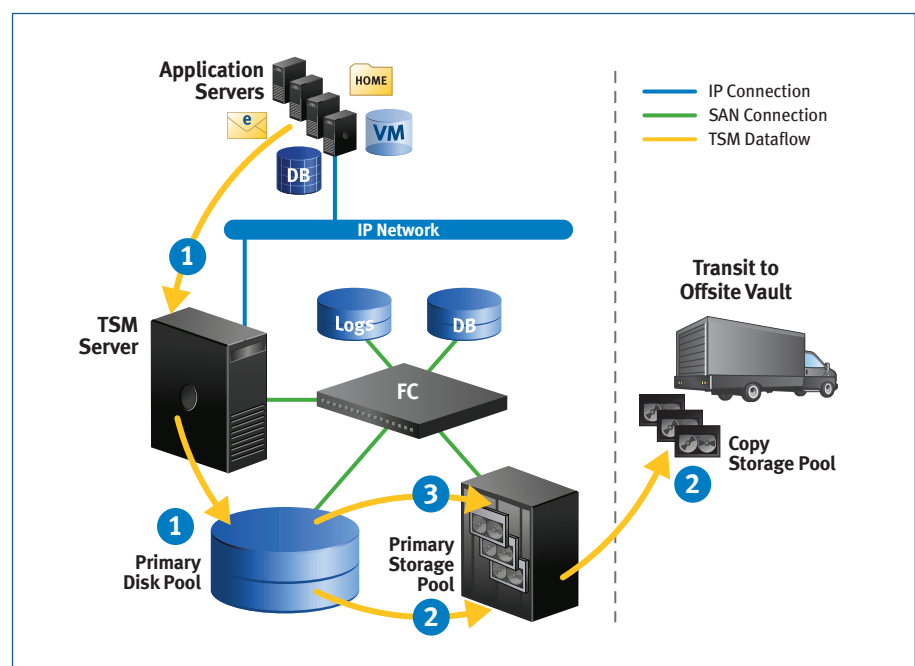


Figure 1: Traditional TSM data and operational workflow

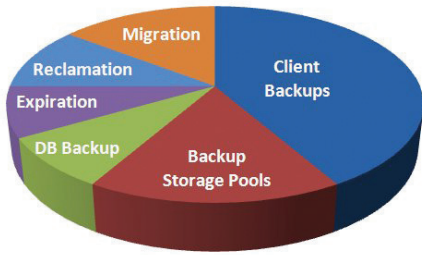


Figure 2: TSM 24-hour maintenance duty cycle

TSM Administrative Tasks

1. Backup storage pools
2. Database backup
3. Expiration
4. Reclamation
5. Migration

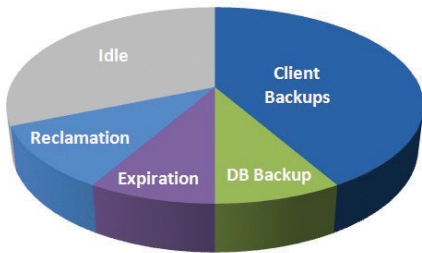


Figure 4: Accelerated TSM duty cycle

The TSM 24-hour maintenance duty cycle has been enhanced with the use of EMC Data Domain systems.

TSM operational maintenance tasks are significantly reduced and operations are accelerated.

Time is given back to the primary task of protecting client data

Traditional TSM 24-hour duty cycle

Figure 2 depicts the 24-hour duty cycle that TSM requires for progressive backup maintenance. If client backups exceed their window, some tasks in the administrative schedule may be compromised. Overlapping of the client backup window and the daily administrative tasks should be avoided. Because TSM administrative tasks typically require the use of the tape library and drives, over subscription can become problematic.

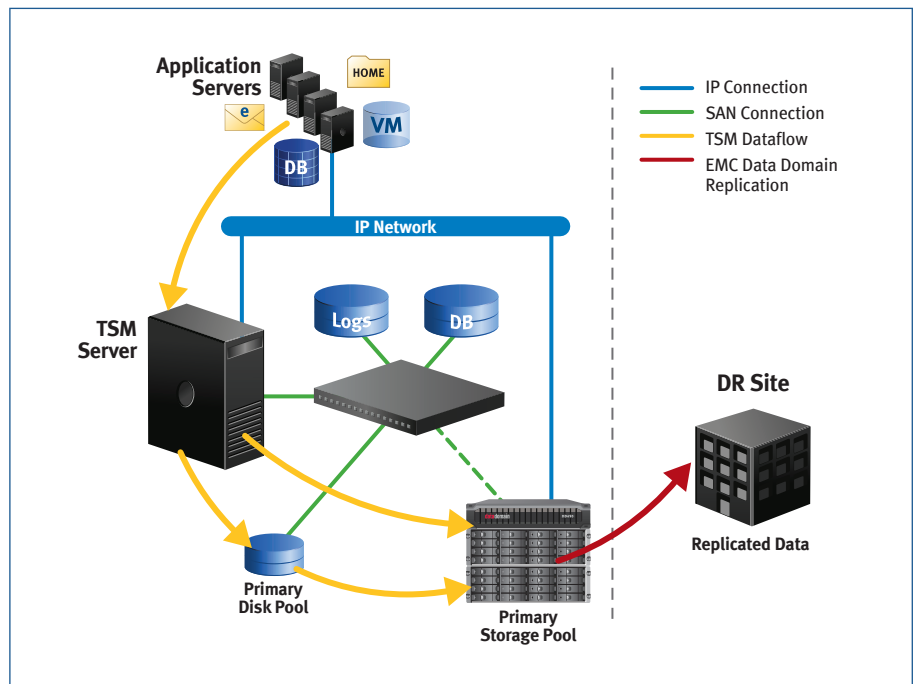


Figure 3: Accelerated TSM data and operational workflow

Accelerate TSM data and operational workflow

Figure 3 illustrates accelerated workflow after implementing a Data Domain system with TSM. Time can be reclaimed from the TSM maintenance duty cycle and reapplied to client backup.

1. If the primary disk pool is minimized or replaced by a Data Domain system, daily migration of staged backups to tape can be reduced or eliminated.
2. If Data Domain replication is configured to a Data Domain system at a DR site, there is no longer the need for TSM to copy backup objects to the copy storage pool. Data Domain deduplication storage systems blend seamlessly into current TSM backup environments, non-disruptively integrating into existing NAS (IP network) and SAN (VTL) infrastructure as well as TSM backup policies.

Reducing or eliminating the primary disk pool staging area and utilizing EMC Data Domain Replicator software empowers the TSM administrator to regain control of the 24-hour maintenance duty cycle and optimize TSM workflow. Figure 4 characterizes the time reclaimed from streamlined TSM operations after implementing a Data Domain system.

EMC Data Domain systems perfect the Tivoli Storage Manager data protection solution by optimizing TSM administrative tasks and containing the high operational costs that are associated with progressive backups. This combination is extremely powerful and provides a best of breed data protection solution for enterprise-class data centers.



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