FalconStor®
Defining Data Protection, Again.™

Solution Overview

Backup Optimization with Midrange Virtual Tape

Using FalconStor VTL as a Backup Target for IBM i

IMPROVE IBM I BACKUP/RECOVERY PERFORMANCE WHILE REDUCING COSTS

Protecting data at remote offices is one of the many challenges IT organizations face in an edge-to-core enterprise architecture. As they face reduced IT budgets and resources combined with abundant data growth, they can no longer rely on writing to tape at the remote office. The standard method of backing up IBM i (AS/400) systems with a locally attached tape drive or library can suffer due to limited backup streams, excessive manual tape handling, and no way to secure data offsite.

By introducing the FalconStor® Virtual Tape Library (VTL) solution into an IBM i environment, organizations can non-disruptively replace tape backup in a disk-to-disk (D2D) format to accelerate backup/recovery processes and improve operational efficiency.

FalconStor VTL provides secure local and remote backup and recovery with deduplication for IBM i environments. Value-added features include integration with native backup tools, IPL bare-metal recovery from virtual or physical tape, and direct physical tape support with encryption for secure operations. With virtual tape, backups complete faster and more reliably, with little or no change needed to the backup environment. This reduces operational and media costs while increasing performance levels to meet stringent application recovery service level agreements (SLAs) and to maximize return on investment (ROI).

SCALABLE, DISK-BASED BACKUP WITH INTEGRATED DATA DEDUPLICATION

FalconStor VTL increases the speed and reliability of IBM i backup tools and methods by leveraging disk to emulate all supported tape drive and tape libraries. FalconStor VTL supports existing Fibre Channel (FC) or IP SAN to transfer data to and restore data from a disk-based virtual tape at ultra-high speeds. To meet the data growth needs of today's largest enterprises, integrated global deduplication technology scales to over 2PB of physical usable storage.

Sound familiar?
Midrange data protection challenges...

- Exploding data growth
  - Data grows at a rate of 50-60% annually
  - IT resources overwhelmed
  - Need to retain more backup data online while minimizing storage footprint
- Increasing costs
  - Consumption, shipment, and management of physical tape is costly
  - Mandates to improve data efficiency & reliability while reducing budget
- Performance challenges
  - Demands to meet recovery times (RTO, RPO)
  - Difficulty meeting backup windows
  - Legacy physical tape infrastructure is slow & subject to failure
- Requirements
  - Increasing regulatory compliance requirements
  - Stringent service-level agreements (SLAs) require longer retention times

FalconStor VTL emulates over 50 popular tape libraries and 30 tape-drive formats in addition to formats specific to IBM i. This allows the product to fit easily and transparently into existing backup environments and enables consolidation of backup operations onto a single platform.

Global deduplication reduces capacity requirements by as much as 95%, based on an average 20:1 deduplication ratio, allowing you to keep weeks or months worth of data on disk for fast, dependable restore. In addition, it reduces WAN bandwidth requirements by replicating only unique data globally. Deduplicated virtual tapes in remote locations can be globally replicated via the WAN to the data center, where FalconStor VTL aggregates the data into a clustered repository of globally unique data. From a cost perspective, deduplication reduces storage, power, and cooling requirements, lowering operating expense (OPEX).

FalconStor VTL for IBM i

SECURE TAPE ARCHIVING

Because data centers require both disk and tape to meet corporate and regulatory requirements, FalconStor VTL seamlessly bridges the two technologies with features that include:

> **Tape caching, consolidation, shredding**

> **Multi-tape export**

> **Advanced Encryption Standard (AES) 256-bit encryption**

By using FalconStor VTL in conjunction with IBM i, organizations with smaller offices and remote sites can electronically vault tapes across any distance using standard IP (WAN) networks, centralizing data for long-term retention. Data is encrypted over the wire and written from the FalconStor VTL directly to physical tape, ensuring its safety at all times while minimizing network and operational overhead.

Benefit Highlights

Non-disruptive integration

- Native emulation of all IBM i tape drives and libraries
- Supports all IBM i backup tools and methods (BRMS, LXI MMS, SAVLIB, media policies, and IPL)
- Supports mixed open system environments
- Minimal learning curve; easy to manage

Enhances IT operations

- Eliminates tape shipments; directly exports to tape based on defined policies and schedules
- Console integration for improved manageability
- Improved reliability and data integrity
- Retain backup data on capacity-optimized disk for longer periods

Business continuity

- Supports Initial Program Load (IPL) bare-metal boot from both virtual and physical tape
- Fast local or remote recovery of systems

Reduces costs

- Integrated data deduplication transmits only unique blocks of data, reducing WAN bandwidth by as much as 90%
- 50-80% cost storage savings compared to disk cache-physical tape solutions
- Deduplication capacity is 10-15x smaller per TB protected
- Reduced power consumption and cooling with less storage footprint

Improves agility

- Retain backup data online for longer periods, improving recovery time objectives (RTO)
- Improved ability to respond to growing backup requirements — scalable cluster configurations available
- No single point of failure — HA configurations available
- Tape stacking allows multiple smaller virtual tapes to be consolidated onto larger physical tape media

Performance enhancement

- Higher performance (write/restore) with connectivity across 8Gb FC
- Supports parallel and concurrent save/restore operations

- *Parallel.* A single object is saved/restored using multiple virtual tape targets and the same IBM i job
- *Concurrent.* Different objects are saved/restored using multiple virtual tape targets and different IBM i jobs

Security

- AES 256-bit encryption
- No host software required
- No impact on CPU
- Encryption works with any supported tape drive format
- Utilize existing media investments: LTO-1 to LTO-5, 3480, 3490,3590, etc.

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

FalconStor®
Defining Data Protection, Again.™

Information in this document is provided "AS IS" without warranty of any kind, and is subject to change without notice by FalconStor, which assumes no responsibility for any errors or claims herein. Copyright © 2013 FalconStor Software. All rights reserved. FalconStor Software and FalconStor are registered trademarks of FalconStor Software, Inc. in the United States and other countries. All other company and product names contained herein are or may be trademarks of the respective holder. VTLSOIBMI130515