

# Tivoli Storage Area Network Management

Businesses implementing Storage Area Networks as part of their information management strategy, will find Tivoli ahead of the market curve by developing tools that not only integrate, but also exploit, SAN functionality toward new levels of economies and efficiencies in data movement and storage.

## A - Customer target

### Customer size

Nb of employees	1-50	50-100	100-250	250-500	500-1000	1 000
			*	*	*	*

### Customer Industry

Tivoli Storage Network Manager All industries  
SANergy Users sharing large files e.g. multi-media

### Typical sponsor

Sales Exec	
Marketing Exec	
CEO	X
Finance Exec	X
Customer Service Exec	
IT Manager	X
Network Manager	

### Account Situation / Prerequisites

- Company investing in Storage Area Networks

## Customer Pains

### Classical/Ideal Prospect and Pain Points

- 50% of companies that experience extended loss of access to information ...
  - go out of business (1989 SF earthquake)
  - lose market capitalisation (Ebay: -26% in stock)
  - lose customers (Charles Schwab)
  - lose customer confidence (AT&T: \$40m paid in rebates)
- Loss of timely access to information can impact Brand/Company image
- Information is growing at up to 8X per year
- The cost of managing storage is typically 10X the cost of the hardware on which it is stored
- 70% of IT spend is now on storage and management of information
- The biggest problem IT has today is not technology but skills and people
- Storage Administrators responsible for Open Systems are becoming increasingly overwhelmed with the challenge of safely storing and managing the rapidly increasing volume of data in today's business environment
- Already, companies are finding it difficult to recruit sufficient Storage Administrators
- Up to 50% of traffic over the LAN is just housekeeping (backup/recovery, archiving, space management)
- Business Application servers are using up valuable processing cycles just moving data around the enterprise instead of running the business applications they were installed for.

Much corporate information is duplicated because different business applications running on different platforms cannot share data

## Questions to create a buying vision

- How fast is your organisation growing?
- How fast is your business/information growing?
- How/Why is information critical to you business?
- What is the impact to your company of loss of access to mission critical business data or customer data?
- How many different platforms are there?
- Does your current infrastructure require multiple resources/skills sets to manage the different platforms?
- Which ones require human intervention to manage, backup and recover information?
- How much does this cost?
- Can improved information management help increase revenues in areas such as online ordering and customer management?
- How does the success of your business depend on the availability of data?
- Have you evaluated the cost of a business outage? What is it?
  - Per hour or lost revenue?
  - In administrative terms to recover?
  - In terms of loss of customer loyalty?
  - In terms of loss of investor confidence?
- Do you have plans for strategic alliances, mergers, acquisitions? What challenges does that present you?
- How is technology and information changing the way you compete in the marketplace?
- What is the impact of mobile technology, e-business, etc on SLAs?
- Are you planning to implement a SAN?
- Are you trying to consolidate your servers? Disks? Tapes?
- Would it help to be able to share tape resources between different applications/platforms?

- Do you have more than one site? Remote distributed systems?

## B - Typical Solution proposed

### Benefits of Solution

#### **Tivoli Storage Network Manager**

1. Tivoli Storage Network Manager makes SAN implementation and management easy and efficient with auto-discovery, and automated policy-based management in one comprehensive solution
2. Tivoli Storage Network Manager simplifies the complexity of managing information across the multiple platform and operating environments typical in a SAN, enabling customers to leverage best-of-breed technology to gain competitive advantage.
3. Policy-based automation and expansion capabilities help customers insure availability of mission-critical applications thereby providing higher storage resource utilization for maximum benefit to the customer's storage investment.
4. Tivoli Storage Network Manager is built upon a highly scalable architecture and ANSI T11 FC-MI discovery and management standards, making it easy to grow with the business to deploy and manage a small SAN or a very large, complex SAN infrastructure.
5. Achieve new levels of economies and efficiencies in data movement and storage. For example, Tivoli Storage Manager's LAN-free back-up capability for traditional and Storage Area Networks delivers immediate benefits to the front line - and the bottom line - by reducing the traffic on your IP network.
6. By moving back-up/recovery traffic from the front-end network to a SAN, dramatic reductions in backup and recovery times can be achieved, and improvements in user response times. Costly IP

network upgrades can be put on hold while you enjoy dramatic increases in Web and e-business transactions. The bottom line? More profits and a higher return on information assets.

7. By allowing tape library resources to be dynamically shared between multiple Tivoli Storage Manager servers, storage resources can be consolidating resulting in hardware cost reductions.
8. SAN Topology Discovery — Assists SAN infrastructure maintenance by providing improved availability of the SAN and continuous access to data for application processing to help ensure maximum application uptime.
9. Resource Allocation—Provides a simple, secure method for identifying and allocating of heterogeneous disk resources to host systems across the SAN.
10. Disk Resource Automation — Reduces administrative workload by enabling the application of monitoring policies to allow for automated task execution to add and extend needed disk resources across the SAN.
11. Continuous SAN Component Monitoring—Gathers and stores relevant SAN infrastructure performance, capacity and activity data to assist administrators in making decisions for SAN growth and stability.

#### **Tivoli SANergy**

1. Tivoli SANergy is one of the building blocks in the overall Tivoli Storage Network Management strategy. When combined with the recently announced Tivoli Storage Network Manager and new SAN capabilities in the Tivoli Storage Manager, customers can install a comprehensive storage management solution for their most mission critical applications running in a SAN environment providing continuous applications availability, and improved performance, to gain competitive advantage
2. Tivoli SANergy eliminates the one-to-one relationship between the number of SAN-connected computers and the number of disk volumes needed

by those computers. This enables multiple computers to share single disk volumes on the SAN-storage. In fact it allows many combinations of computers running Windows NT, Windows 2000, MacOS, Irix, Solaris, AIX, Tru64, Red Hat Linux and DG/UX to all share the exact same disk volumes at the same time—across platforms. And if the applications running on those computers are capable, Tivoli SANergy even enables the transparent sharing of the exact same files at the same time—across platforms

3. Tivoli SANergy is the first solution to enable users implementing SANs to transparently share access to common storage, volumes and files. Storage resources can be shared across UNIX®, NT™ and Apple® Macintosh® systems at the volume, file and byte level with increased throughput and lower overhead than server-based sharing. The resulting high-performance shared storage environment can significantly reduce IT costs by consolidating storage space and eliminating the replicated data common to multi-host environments.
4. With Tivoli SANergy, customers can efficiently centralize their storage resources for reduced administration overhead, improved performance, and greater Return On Investment (ROI).

#### **Content of Solution**

- **Tivoli Storage Network Manager** offers a comprehensive SAN management solution that discovers, displays, allocates, monitors, automates, and manages SAN fabric components and disk storage resources.

- **Tivoli SANergy™** is software that provides the power to simultaneously share the same storage, the same file systems and even the same files between multiple computers connected to a SAN.

- **Tivoli Storage Manager**, along with it's complementary products, offers SAN-enabled integrated enterprise-wide network backup, archive, storage management and disaster recovery capabilities. This

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solution features multi-vendor tape resource sharing and LAN-free data transfer over traditional IP and fiber channel networks.

## SANergy Platforms

### SANergy Clients

Apple MacOS 8.9 or 9  
Compaq Tru64 UNIX V4  
SGI IRIX UNIX 6.5  
DG UX 4.2  
AIX 4.3.2 or 4.3.3  
Red Hat Linux 6.2 or 7  
Sun Solaris 2.6, 2.7, 2.8

### SANergy MDC Server Platform

Windows NT/2000, Red Hat Linux, Sun Solaris

## Storage Network Manager Platforms

Requires Windows NT2000 server platform attached to the SAN plus a TSNM host server of:  
Windows NT, 2000, AIX, Sun Solaris

## SAN Pricing Example

**Example 1:** SAN management solution for an existing IBM ESS 'Shark' intelligent disk subsystem connecting to 10 UNIX servers via two SAN switches and sharing a tape library  
Products: Tivoli Storage Network Manager  
Guidance Price: L50,000

**Example 2:** Large corporate SAN management solution consisting of 700 UNIX/NT servers across 4 sites connected via the SAN and sharing tape library resources  
Products: Tivoli Storage Network Manager  
Guidance Price: L3.5million

## Service offering:Typical Statement of work

**Tivoli Storage Network Manager** - from 1 week for a simple departmental SAN solution, to 4 weeks for a more complex SAN fabric connecting several sites and many servers.

**TOTAL** **5 -20 days**

### Advanced Service offering

**Tivoli SANergy** – approximately 1 week to implement across ten UNIX/NT servers

**TOTAL** **5 days**

### Note:

Passport Advantage is not currently available on Tivoli Storage Products. It is planned for introduction later in 2001.

## C - Business Partner Value Proposition

The Tivoli Business Partner program consists of qualified systems and network integrators, services providers, resellers and distributors trained to provide customers with sales, implementation, and professional support services for designing, implementing and supporting Tivoli's IT management solutions. By targeting specific market segments, Tivoli Business Partners offer customers the freedom to choose the expertise that meets the needs of growing businesses. Pricing is dependent upon configuration.

Contact Tivoli for further details

## D - References

### SANergy

Rice University - video on Demand

Agfa Gevaert UK - pre print digital image manipulation

### Post Danmark:

Consolidated disparate storage systems using an Enterprise Storage Server and Tivoli software

### Quotes

"Administrators are overwhelmed with the challenge of safely storing and managing the rapidly increasing volume of data in today's business environment", says Paul Mason, Vice President of Infrastructure Software Research at IDC. "As SANs must be managed just as other complex network resources, Tivoli Storage Network Manager simplifies their task."

"Tivoli has a clear vision on SAN management," said Hans Beierle, EDS. "Tivoli has laid down that vision in a compelling architecture and is actively participating in setting common standards for the industry, which is essential due to the heterogeneity of a true open SAN."

"By bringing better management tools into the SAN environment, Tivoli's Storage Network Manager helps customers simplify the integration of a SAN into their business solution," said Larry Sanders, president and COO of Crossroads Systems. "Our continuing partnership with Tivoli benefits our customers by providing easy implementation and proven interoperability, resulting in lower cost of ownership to the end-user."

Over 5000 licenses of Tivoli SANergy are in use around the world on more than 1000 SANs. Thousands of

software applications running on nine different operating systems work completely transparently with SANergy.

"Tivoli SANergy saves us from many hours of storage maintenance, data movement and copying and has kept us flexible enough to survive computer failures without loss of service," said Hubert Daugherty, New Media Systems Designer at Rice University in Houston, Texas. "Regardless of what platform the web-video server du jour is built for—Solaris™, Irix™ or NT—we need only one copy of our streaming files. Video files are enormous and moving these assets is resource intensive. But, with a single RAID formatted as one NTFS disk volume, we can provide direct file access, without file duplication, for multiple Sun™, SGI™ and Windows NT computers across the SAN."

"Leveraging the Tivoli SANergy technology will be a tremendous advantage to our customers," said Brad Balogh, President of LSC, Inc., an advanced storage management software developer in Eagan, Minnesota. "When combined with Tivoli SANergy, our high-performance QFS offers the fastest and most reliable file sharing platform for heterogeneous systems in the market."

**Note:**

Storage Network Manager is a new product and there are no established references yet.

## E - Other Information

### Where to get more information ?

[www.tivoli.com/storage](http://www.tivoli.com/storage)

TIPS website for Business Partners

Several Tivoli Ready Business Partners are working to extend the capabilities of Tivoli Storage Network Manager to customers by providing integrated tools and products. Crossroads Systems, INRANGE Technologies, McDATA, Pathlight, Qlogic, and Emulex are currently working with the Tivoli Ready certification lab and plan to announce integrated solutions in Q4 2000, offering easier and faster deployment times to Tivoli customers

### Relevant publications or deliverables

#### Tivoli Sales Kit CD for Business Partners

Contains	Datasheets
	At A Glance sheets
	Whitepapers
	Demo

#### IBM Total Storage CD

Contains	Complete IBM Storage Solutions
	Includes Tivoli Storage Software