

IBM Tivoli Storage Manager for Storage Area Networks

Highlights

- ***Provides LAN-free disk-to-tape data backups and restores***
- ***Provides LAN-free disk-to-disk data backups and restores***
- ***Shares SAN-attached tape libraries and disk drives between multiple Tivoli Storage Manager servers***
- ***Provides server-free data backups and restores for Microsoft Windows-only environments***

The IBM® Tivoli® Storage Manager for Storage Area Networks (SANs) extension allows SAN-connected Tivoli Storage Manager servers and Tivoli Storage Manager client computers to make maximum use of their direct network connection to storage. This software extension allows both servers and client computers to make the bulk of their backup/restore and archive/retrieve data transfers over the SAN instead of the LAN, either directly to tape or to the Tivoli Storage Manager disk storage pool. This ability can help greatly reduce the impact of data protection on the LAN while also reducing CPU utilization on both client and server. For computers running Microsoft® Windows®, some SAN configurations can allow specific SAN devices to perform data movements directly to and from some tape devices, helping further reduce client and server CPU utilization. Should a tape library be connected directly to a SAN, this software extension also allows multiple Tivoli Storage Manager

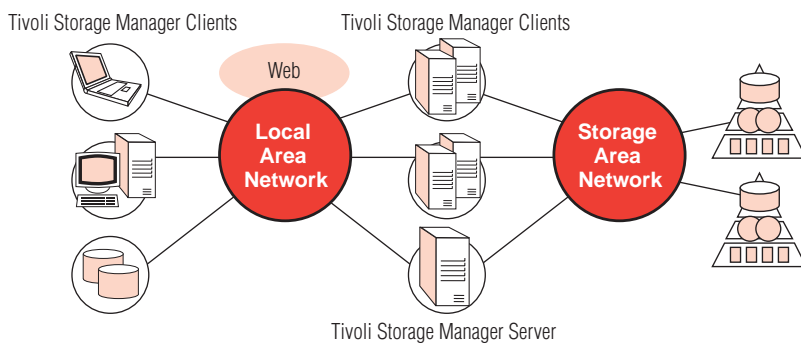
servers to share the library over the high-bandwidth data connection.

Provides LAN-free disk-to-tape backups and restores

The LAN-free disk-to-tape data-transfer function enabled by Tivoli Storage Manager for SANs uses the SAN instead of the LAN to carry data-protection traffic. LAN communications bandwidth can then be used efficiently for the usual application data traffic.

SANs provide an alternative path for data movement between the Tivoli Storage Manager client and server. LAN-free data transfer exploits the SAN path by allowing the Tivoli Storage Manager client to back up and restore data directly to and from SAN-attached storage, which is shared between the Tivoli Storage Manager server and client and managed by the server. The LAN connection is used to exchange control information such as policy data and metadata about the objects being backed up, but the data

Tivoli Storage Manager for SAN



movement uses the SAN to write directly to the tape storage media. Data movement is off-loaded from the LAN and from the Tivoli Storage Manager server processor, providing greater scalability for the server—and thereby allowing the server to support a greater number of simultaneous client connections.

Provides LAN-free disk-to-disk backups and restores

The operational architecture of Tivoli Storage Manager includes the concept of disk storage pools. Backup or archive data can be

moved from client computers directly to disk storage for short-term storage and later migrated to tape for longer-term storage. With Tivoli Storage Manager for SANs, the disk storage pools can be SAN-connected, allowing backup and archive data to move directly from client computers over the SAN to the SAN-connected disks. Should the SAN connection fail, Tivoli Storage Manager can automatically switch to using the LAN. Restores likewise can pull data directly from the SAN-connected disk storage pools and return it to the client over the SAN.

Shares SAN-attached tape libraries and disk drives between multiple servers

With Tivoli Storage Manager for SANs, multiple Tivoli Storage Manager servers can use the same tape libraries and tape drives connected to a SAN. This ability can help improve backup and recovery bandwidth as well as tape hardware asset utilization.

When Tivoli Storage Manager servers share a tape library, one server is defined as the library manager to control the library operations. These operations include mount, dismount, volume ownership and library inventory. Other Tivoli Storage Manager servers—or library clients—use server-to-server communications to contact the library manager and request library service.

Provides server-free data backups and restores for Windows-only environments

Server-free data backups and restores help reduce the CPU impact on both the Tivoli Storage Manager clients and the Tivoli Storage Manager servers by using the data-pumping capabilities of particular SAN devices such as switches and bridges.

Similar to LAN-free, server-free data movements also help reduce data traffic on the LAN by moving backup and restore data to the SAN. This helps free the LAN to handle other data traffic, and because the Tivoli Storage Manager server isn't pumping data over the SAN, it can perform other tasks. CPU utilization on the Tivoli Storage Manager client also can be reduced because the client also no longer needs to pump data.

Server-free data movement is supported on Windows 2000 and Windows NT® IBM Tivoli Storage Manager servers and Windows 2000 IBM Storage Manager client computers.

Technical requirements

The Tivoli Storage Manager for SANs software extension requires Tivoli Storage Manager or Tivoli Storage Manager Extended Edition server and client software as a prerequisite.

Benefits

The Tivoli Storage Manager for SANs extension allows computers connected to a SAN to use the SAN for data-protection operations with Tivoli Storage Manager. LAN-free

disk-to-tape and disk-to-disk backup/restore and archive/retrieve, SAN-connected tape library sharing and server-free backups and restores can provide the following benefits:

- *Can help remove most data-protection traffic from the LAN and put it on the SAN*
- *Can help reduce the CPU-processing load on the Tivoli Storage Manager or Tivoli Storage Manager Extended Edition server by using the CPU-efficient SAN for data movements*
- *Can help increase the number of simultaneous client connections on the Tivoli Storage Manager server by reducing the CPU load required to move data*
- *Can help improve backup and recovery data-movement performance by using the high-bandwidth SAN connections*
- *Can help improve tape hardware asset utilization through SAN-connected library sharing between multiple Tivoli Storage Manager servers*

Tivoli software from IBM

An integral part of the comprehensive IBM e-business infrastructure solution, Tivoli technology management software

helps traditional enterprises, emerging e-businesses and Internet businesses worldwide maximize their existing and future technology investments. Backed by world-class IBM services, support and research, Tivoli software provides a seamlessly integrated and flexible e-business infrastructure management solution that uses robust security to connect employees, business partners and customers.

To learn more

For information on IBM Tivoli Storage Manager for Storage Area Networks and integrated solutions from IBM, contact your IBM sales representative or visit info.tivoli.com/storageforsuccess



© Copyright IBM Corporation 2002

IBM Corporation
Software Group
Route 100
Somers, NY 10589
U.S.A.

Printed in the United States of America
08-02
All Rights Reserved

IBM, the e-business logo, the IBM logo and Tivoli are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries or both.

Microsoft, Windows and Windows NT are registered trademarks of Microsoft Corporation in the United States, other countries or both.

Other company, product and service names may be the trademarks or service marks of others.

The Tivoli home page on the Internet can be found at **tivoli.com**

The IBM home page on the Internet can be found at **ibm.com**

 Printed in the United States on recycled paper containing 10% recovered post-consumer fiber.