

IBM TotalStorage™ Virtual Tape Server Model B20



Highlights

- ***Helps reduce “real” tape mounts, because many mount requests are satisfied from the Tape Volume Cache (TVC)***
- ***Can reduce physical tape cartridges required because of higher utilization of cartridge capacity***
- ***Can reduce floor space required to support the tape process, as a result of fewer physical resources***
- ***Helps improve performance due to the elimination of most of the physical movement of tape***
- ***Helps reduce operating costs such as power, maintenance, operations and support staff***

Overview

The IBM TotalStorage Virtual Tape Server Model B20 (B20 VTS) is an enterprise tape solution designed to enhance performance and provide the capacity required for today's backup requirements. Adoption of this solution can help reduce batch processing time, total cost of ownership and management overhead. Automation of a larger portion of a company's data storage may also be facilitated in a shorter period of time.

The B20 VTS has been designed to reduce or eliminate the number of bottlenecks that may be present in a given tape environment, depending on the characteristics of installed equipment and processor workloads. For example, if more drives are needed, up to 256 virtual drives may be configured to meet this need. If cartridge capacity is not fully utilized, the B20 VTS can alleviate this problem by filling physical cartridges.

The B20 VTS initially creates a virtual volume in a buffer known as the Tape Volume Cache (TVC), a RAID-5 disk array. If these virtual volumes are re-referenced, they are accessed in most instances from the TVC, helping to eliminate many of the physical delays associated with tape I/O and improving the performance of the tape process.

The virtual volume is also written to an attached IBM TotalStorage Enterprise Tape System 3590 as a logical volume. A copy of the virtual volume remains in the cache which may provide fast access to critical data.

A VTS provides a high degree of automated storage management capabilities. Migration and reclamation functions are dynamically processed whenever VTS internal thresholds are met and necessary resources like two idle Enterprise Tape Drives are available.

Optional Advanced Function and Advanced Policy Management features are available to optimize the storage management for specific needs.

- *The cache residency time of selected virtual volumes may optionally be preferred over others using DFSMS.*
- *A cache management option offers immediate deletion of selected virtual volumes after pre-migration to optimize fast read access to data.*
- *The Volume Pooling option enables groups of selected logical volumes. This option allows different application or customer sets to be grouped on physically separated stacked volumes.*
- *Selected logical volumes may automatically be duplicated and stored on different physical cartridges to protect data from media failures.*

The IBM TotalStorage Virtual Tape Server Model B20 at a glance

	Minimum	Maximum
Tape volume cache (GB)	2,592 ¹	5,184 ¹
Virtual drives	128	256
Physical tape drives	6	12
Virtual volumes	250,000	250,000
FICON™-only channels	4	8
ESCON®-only channels	8	16
FICON/ESCON channels	4/4	4/8
ESCON/SCSI busses	8 / 8	8 / 8

Supported environments²

- z/OS™ v1 or later
- OS/390® v2 or later
 - DFSMS/MVS® v1.2+ or later
- z/VM™ v3 or later
 - VSE/ESA™ v2.2 plus PTFs+ is supported as a z/VM guest
- TPF v4.1 plus PTFs or later
- VM/ESA® v2.2 or later
 - VSE/ESA™ v2.2 plus PTFs+ is supported as a VM/ESA guest
- AIX® v4.32+ or later
- Sun Solaris® v2.6+ or later
- Windows NT® / Windows® 2000
- HP-UX R11

¹ At a data compression factor of 3:1

² Lists the minimum software level requirements for the basic VTS support. Please refer to the technical documentation for specific function or feature support.

- *Import/Export enables volumes to be moved for disaster recovery, workload balancing or volume archiving. Exported stacked volumes may be imported on another VTS Model B20 or B10.*

Virtual drives can be dedicated to a specific processor or shared in supported environments. This flexibility maximizes the efficiency of data transfer operations by allocating sufficient drives for a specific task.

IBM TotalStorage Enterprise Tape Library Specialist is available to monitor the B20 VTS. A Call Home function is also provided to enable proactive maintenance.

Server attachment

The B20 VTS may be attached to IBM and non-IBM servers using FICON, ESCON, SCSI and Storage Area Network

(SAN) connections. AVTS can be supported at distances of up to 100km using channel directors or switches. Even greater distances are supported with WAN or ATM connections.

Peer-to-Peer Copy

Two B20 VTSs can be coupled to participate in an IBM TotalStorage Peer-to-Peer Virtual Tape Server (PtP VTS) environment. The PtP VTS design helps to avoid single points of failure and improves data availability. The PtP architecture allows physical separation of components in two sites to enhance disaster recovery.

Optional software

The IBM TotalStorage Enterprise Tape Library (ETL) Expert is a separate software product that complements the Tape Library Specialist. The ETL

Expert consolidates information from multiple tape libraries and provides performance, capacity and asset management tracking.

Implementation services

IBM provides a set of service offerings designed to expedite implementation.

More information

For a complete evaluation of your environment, contact your IBM representative, your IBM Business Partner or visit www.ibm.com/storage.



© International Business Machines Corporation 2002

IBM Corporation
Storage Systems Group
9000 Rita Road
Tucson, AZ 85744

Produced in the United States
07-02
All Rights Reserved

IBM, TotalStorage, AIX, DFSMS/MVS, ESCON, FICON, OS/390, VM/ESA, VSE/ESA, z/OS and z/VM are trademarks or registered trademarks of International Business Machines Corporation.

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

Other company, product, and service names maybe trademarks or service marks of others.

References in this publication to IBM products, programs, or services do not imply that IBM intends to make them available in all countries in which IBM operates.

IBM hardware products are manufactured from new parts, or new and used parts. In some cases, the hardware product may not be new and may have been previously installed. Regardless, IBM warranty terms apply.

Data provided is for information only and does not constitute a warranty of performance. Actual processing time achieved with the Virtual Tape Server B20 is a function of components such as system processor, the associated tape drive configuration, data block size, data compressibility, dependencies on other I/O such as disk, and the system and application software used.

G225-6926-01