IBM Tivoli Tape Optimizer on z/OS

**Highlights**

- Copy data to and from a wide variety of tape devices and tape media, including single- and multiple-volume tapes, and tapes with cataloged and uncataloged data sets
- Copy multiple tape volumes in a single batch copy job, without any built-in limits on the number of tape volumes that can be copied
- Define, submit, edit and monitor batch copy jobs from an easy-to-use interface
- Select only the input tapes that need to be copied by using flexible filtering criteria
- Expedite the processing of copy jobs by using multitasking capabilities
- Stack information on tapes to help minimize the costs and complexity of dealing with increasing numbers of tapes
- Preserve IBM DFSMSrmm tape library information and automatically update the IBM z/OS system catalog for copied tape volumes

Organizations routinely need to copy tape volumes to other tapes or tape-compatible storage for the z/OS® environment. An organization might need to migrate tape data to or from virtual tape servers (VTSs) or high-density cartridge tapes. Or it might need to build tapes that are composed of tape volumes from a number of places in the library, to meet retention requirements. And nearly every organization must preserve tape data by copying data from tapes that are starting to degrade to newer tapes.

For uses such as these and many more, you can use IBM Tivoli® Tape Optimizer on z/OS to help maximize the efficiency of your tape-copy processes and optimize utilization of tapes:

- Take advantage of the product’s easy-to-use Interactive System Productivity Facility (ISPF) interface and support for nearly all types of tape devices and tape media.
Utilize flexible filtering criteria to precisely include tapes in or exclude tapes from copy jobs.

Leverage multitasking capabilities to concurrently run multiple copy subtasks under a single batch job.

Use more than just a fraction of the space on tapes to help minimize the number of tapes needed, as well as the costs and difficulty of maintaining them.

Importantly, Tivoli Tape Optimizer on z/OS enables your organization to leverage the advantages of the policy-driven tape management capabilities of IBM Data Facility Storage Management Subsystem removable media manager (DFSMSrmm™). By using Tivoli Tape Optimizer on z/OS, your organization can preserve DFSMSrmm tape library information for the copied tapes. You can combine the extensive resource details (for data sets, volumes and policies), advanced overwriting protection, data movement features and customization capabilities in DFSMSrmm with the powerful copy capabilities of Tivoli Tape Optimizer on z/OS to make the most of tape storage.

Configure copy jobs easily

From the Tivoli Tape Optimizer on z/OS interface, you can easily define, submit, edit and delete batch copy jobs. The software offers many copy options:

- Number of concurrent tasks to run for a copy job
- Number of days to retain input tapes
- Whether to stack tape volumes on output tapes
- Whether to rename tape data sets
- Much more

Based on the configuration information that you enter, the software generates the job control language (JCL) for the copy job and displays it for your review.

Restart copy jobs without recopying data

Because tape copy jobs can run for hours or even days, no one wants to restart a job from the beginning because of system problems. But when you resubmit a failed or stopped Tivoli Tape Optimizer on z/OS job, it automatically resumes copy processing from the appropriate point. No manual intervention is required. This restart facility also enables you to proactively terminate long-running copy jobs to free system resources.

When a copy job completes, summary copy statistics are written to the job SYSOUT. You also can view details about a copy job from the Tivoli Tape Optimizer on z/OS interface.

Define flexible filtering criteria

You can specify which input tapes to copy by using a variety of filtering criteria:

- Volume serial numbers (volsers)
- Data set names
- Tape-creation program names
- Tape-creation dates, DFSMSrmm assigned dates and last-referenced dates
- Tape-expiration dates
- Other tape characteristics, such as whether the tapes are pending scratch or are copies that were previously created with the product

To help preserve data on tapes that are starting to degrade, Tivoli Tape Optimizer on z/OS enables you to include tapes that have temporary I/O errors. You can also exclude tapes with permanent I/O errors to avoid copying tapes that are no longer useful for recovery purposes.
By combining filtering criteria like these, you can avoid unnecessary duplication. For example, to streamline the copying of data from a VTS to long-term storage, you could create filters that identify only the tape volumes that need to be migrated.

**Help optimize copying efficiency and tape utilization**

To help you maximize the efficiency of copy processing, Tivoli Tape Optimizer on z/OS can run multiple copy tasks concurrently under one copy job. As a result, you can copy large quantities of tape volumes very rapidly. This multi-tasking capability helps you optimize the performance of copy tasks such as:

- **Migrating large amounts of tape data to a VTS or high-density cartridge tapes.**
- **Copying data from degrading tapes to newer tapes to preserve tape data.**

The software also enables you to tailor resource usage based on available resources and on workload requirements. For example, you can submit a copy job on more than one processor to distribute the CPU and I/O resource load.

To help you maximize the utilization of tape media and help minimize the financial and personnel costs associated with storing and maintaining tapes, Tivoli Tape Optimizer on z/OS enables you to stack multiple tape volumes on single tapes. With the product’s flexible stacking policies, you can specify the maximum amount of data or the maximum number of files to allow on a stacked tape. In this way, you can avoid spanning a tape chain or file across multiple tapes.

**Automatically maintain important information about copy jobs**

Tivoli Tape Optimizer on z/OS automatically updates DFSMSrmm tape library information as well as the system catalog for copied tapes. You specify which tape library information to apply by selecting or deselecting DFSMSrmm control variables in the Tivoli Tape Optimizer on z/OS interface. The software can then automatically apply the DFSMSrmm tape library information for the input tapes to the output tapes.

**Software requirements**

- Any supported release of z/OS with DFSMSrmm
- Any supported version of Time Sharing Option/Extensions (TSO/E)
- Any supported version of ISPF

**For more information**

To learn more about how Tivoli Tape Optimizer on z/OS helps you efficiently copy tape volumes, preserve DFSMSrmm tape library information and keep your system catalog up to date, call your IBM representative or IBM Business Partner, or visit [ibm.com/tivoli](http://ibm.com/tivoli).