

# LTFS Archiving with Oracle Hierarchical Storage Manager 6.0

## Archive. Access. Protect.

As data volumes and storage infrastructure expand to handle the explosion in file-based information, companies are struggling with the resulting management complexity.

Designed to address the challenges of rapid data growth, Oracle Hierarchical Storage Manager (Oracle HSM) streamlines data management processes to help organizations save time and money. Policy-based storage tiering, comprehensive data protection, and data archiving combine with automatic data management based on the business value of information to help reduce storage cost and complexity.

With Oracle HSM software, data can be archived using open formats to ease future access and avoid vendor lock-in. Any tape or disk archive generated by Oracle HSM can be independently read and restored even without the software thanks to the open format.

Now, with Oracle HSM 6.0 you can import and export LTFS formatted tape cartridges enabling data to be easily transported and shared between a central archive and remote locations.

### What is LTFS?

LTFS is a self-describing format for archiving data to tape. It allows a high capacity tape cartridge to operate similar to how a thumb drive or memory stick works. It is particularly applicable to archiving as it allows IT staff to make upper-level software changes without impacting the ability to access data. It also allows businesses to transport and share information without concern for the format or application that created the data.



### SIMPLIFYING DATA TRANSPORT, INGEST AND ACCESS

- You can now import and export LTFS formatted tapes with Oracle HSM, enabling data to be shared between a central archive and remote locations.
- LTFS is particularly applicable to archiving as it allows IT staff to make upper-level software changes without impacting the ability to access data.

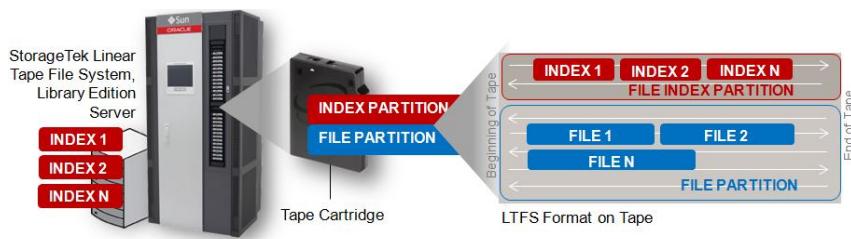
## Why LTFS?



When you use the Linear Tape File System (LTFS) format, you can retrieve files directly from tape or move files from tape to disk without a backup, archive or another HSM

application and without staging the data on another storage tier—such as a flash or disk storage system. LTFS provides users with a file system view of a tape's content.

The LTFS format is an open specification that describes the layout of data structures stored on sequential access media, such as a magnetic tape cartridge. In order to present a complete file image to a user, LTFS stores files in a self-describing format by logically splitting a tape cartridge into two partitions that contain the file system metadata and the raw file data. LTFS simplifies access to files on tape. Because LTFS writes data in an open and self-describing format, anyone with a compatible tape drive can download the LTFS driver and read an LTFS tape without an archive application or any other software.



How LTFS works with Oracle HSM

With the release of version 6.0, Oracle HSM now can import LTFS formatted tapes into the archive; and it also can export data from the archive on LTFS formatted tapes.

When an LTFS tape is imported into Oracle HSM, the tape is recognized as LTFS media and stored in the library. The archive then accesses the contents of the LTFS media through the StorageTek QFS file system. The tape's file system metadata partition is read, and then this information is used to recreate the file metadata within the StorageTek QFS file system. This is done without copying the data partition of the tape, enabling the files to be quickly imported into the archive. After the file is imported, it is managed just like any other file in the StorageTek QFS file system. When copies of the data need to be created by Oracle HSM per the user-defined policies, the information on the data partition of the tape will be staged back to the primary disk. After the file's contents have been staged, the association with the LTFS media remains. The additional copies of data will be archived in .tar format.

If after importing the LTFS media, you want to access the data without staging it to the disk cache, there is a command to load the tape and directly access the files.



### HOW IT WORKS

- The archive accesses the contents of LTFS formatted tape media through the StorageTek QFS file system.
- When an LTFS tape is imported into Oracle HSM, the tape's file system metadata is read and re-created in Oracle HSM. After the file is imported, it is managed just like any other file in the StorageTek QFS file system.
- To export files, simply request a tape be mounted as a file system and copy the desired files to the mounted LTFS tape.

### CONNECT WITH US

- blogs.oracle.com/oracle
- facebook.com/oracle
- twitter.com/oracle
- oracle.com

FOR MORE INFORMATION  
Contact: 1.800.ORACLE1



**Hardware and Software, Engineered to Work Together**

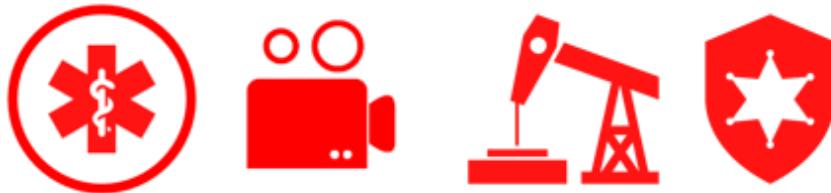
Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners. 0115

To export files onto LTFS-formatted tapes, you simply request the tape be mounted as a file system and copy the desired files to the mounted LTFS tape. These exported copies will not be part of the StorageTek QFS file system, and they do not count as one of the four possible archive copies.

Oracle HSM software has always had the ability to export files in .tar format which, like LTFS, is a self-describing format that enables the tape to be read without the use of Oracle HSM software. Exporting in LTFS adds an extra degree of openness because the contents of the tape can be viewed in the same manner as a thumb drive.

## Use Cases

The primary use case for the LTFS import functionality is when data generated at remote locations needs to be preserved in a central archive. Common industry uses cases include film and television production and broadcast, oil and gas exploration, video surveillance in law enforcement and healthcare image and records archiving.



## CONTACT US

For more information about Oracle's storage solutions for digital archiving, visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.

### CONNECT WITH US

- [blogs.oracle.com/oracle](http://blogs.oracle.com/oracle)
- [facebook.com/oracle](http://facebook.com/oracle)
- [twitter.com/oracle](http://twitter.com/oracle)
- [oracle.com](http://oracle.com)

FOR MORE INFORMATION  
Contact: 1.800.ORACLE1



### Hardware and Software, Engineered to Work Together

Copyright © 2015, Oracle and/or its affiliates. All rights reserved. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners. 0115