



LTO Case Studies

The True Measure of Tape

Gartner PlanetStorage 2003
June, 2003



Agenda

- What is LTO Technology?
- Case Studies
 - Medical Equipment Manufacturer – Small
 - Utility Service Provider – Medium
 - IT Service Provider – Large
 - Broadcast Company – Extra Large
- Summary of Key Criteria



LTO Ultrium

- LTO joint initiative launched in 1997 by Certance, HP, IBM
- Open tape format specification for high capacity and high performance
- Targets midrange and network server environments that demand high reliability
- Provides credible long range technology roadmap
- Multiple sources of product and media – true customer choice
- Compatibility between products from different vendors
- Variety of product feature sets
- Over 30 licensees of media and drive specifications
- Over 350K drives shipped, nearly 10M cartridges shipped
- Independent verification entity certifies compliance



Certance Ultrium Viper 200



HP StorageWorks Ultrium 460



IBM TotalStorage Ultrium 3580



Medical Equipment manufacturer produces more time with LTO drive

**Can now
perform the
backup well
within the
6 hour
backup
window on
a single
tape!**

Customer	Small medical equipment manufacturer
Situation	<ul style="list-style-type: none">•Network of seven Intel-based servers•Approximately 50 users in UK and US•Typical backup of 120 GB per night, backup window of 6 hours•Outgrew DAT-based backup
Format Considerations	<ul style="list-style-type: none">•All data on a single tape•Reliability critical•Cost of ownership also a key factor
Resolution	Standalone Ultrium 1 drive for over-the-network backup of all seven servers
Results	Provided the capacity needed while staying within the backup window

User results may vary.



Aquila Networks handles SAN backups and growth with LTO Scalable Tape Library

"...equipment is absolutely rock solid. It does exactly what they say it will do....it went in without a hitch and has been running that way ever since."

Rodney Lord
Infrastructure
Manager

User results may vary.

Customer	Aquila Networks, Energy - Utilities
Situation	<ul style="list-style-type: none"> •Operates more than 100,000 kilometers of power lines •Manages retail accounts •New entity formed and growing fast
Format Considerations	<ul style="list-style-type: none"> •Needed fast, reliable, cost effective backups •Quick access to information
Resolution	Scalable LTO tape library with Ultrium fibre channel tape drives and management software
Results	<ul style="list-style-type: none"> •Backs-up all corporate data residing on four open system UNIX servers over the SAN •Delighted with the ease of use and performance – up to 430GB per hour with 4 Ultrium 1 fibre attached tape drives •Library can scale and keep pace with rapid growth



Fusepoint gains scalability and performance with LTO tape library

"We are quite happy... It is much easier to operate; it is much easier to support."

*Dimitri Smirnov
IT Manager*

User results may vary.

Customer	Fusepoint, Managed IT Service Provider
Situation	<ul style="list-style-type: none"> • Two large data centers; one on each coast in NA • Provides outsourcing services • Experiencing growth and backup window issues
Format Considerations	<ul style="list-style-type: none"> • Needed tape library system extensibility • Availability and performance requirements • Technology roadmap confidence • Open standard choices from a variety of vendors
Resolution	Scalable LTO tape library with 300 slots and 4 Ultrium-1 tape drives
Results	<ul style="list-style-type: none"> • Greatly improved scalability to manage growth (can grow to 192 drives and over 1PB of data) • Up to 50MB/sec. per drive (Ultrium 1) • Solution integrated smoothly with software and servers



Broadcast Company Casts LTO Ultrium 2 for Capacity and Performance

“We did some tests with LTO2...we were staggered by the data rates achieved.”

Customer	Large international broadcasting company
Situation	<ul style="list-style-type: none">•Multiple sites and servers•Company's large-capacity servers had reached the limits of DLT tape•Needed faster throughput for capacity servers
Format Considerations	<ul style="list-style-type: none">•Needed the highest capacity and performance•Wanted to standardize on a single tape format for all servers•Wanted a solid roadmap for future generations
Resolution	Over 200 Direct-attach Ultrium 2 tape drives and associated libraries
Results	<ul style="list-style-type: none">•Met the goals for capacity and reliability•Outstanding performance•Delivering on the roadmap

User results may vary.



Summary

- High Performance
- Scalable Capacity
- Ease of Integration
- Multiple Sources of Product and Media
- Compatibility Between Products
- Effective Cost of Ownership
- Proven – Trusted Roadmap

