



**For Immediate Release**

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**LTO ULTRIUM FORMAT BUCKS THE STORAGE TREND;  
TECHNOLOGY RELIABILITY, SPEED, CAPACITY KEY FACTORS  
IN SECURING MARKETPLACE LEADERSHIP**

*LTO Ultrium Generation 3 Planned for Announcement in 2004 with  
800GB Compressed Capacity*

**SILICON VALLEY, CALIF. — (Dec. 10, 2003)** — It has been a good year so far for the LTO Program as the Ultrium format continues to buck the data storage trend of slow growth.

Certance (formerly Seagate Removable Storage Solutions), HP and IBM Corporation, the three technology provider companies (TPCs) for the LTO (Linear Tape-Open) Program, continue to see strong acceptance of the LTO Ultrium format as evidenced by the format's 2:1 penetration versus the SDLT format based on the Gartner Dataquest, Tape Drive Review and Forecast June 2003\*. According to Gartner, LTO tape drive shipments for the first nine months of 2003 are still outpacing SDLT shipments by nearly 2:1.

"We believe the analyst research and shipment data for the LTO Ultrium format make it undeniably clear – the LTO Ultrium format is a hot data storage tape technology that continues to address pent up demand from customers worldwide," said Barry Rudolph, Vice President, Tape Storage Systems, IBM. "One key factor to the success of the Ultrium format has been reliability, as indicated by an energy and utilities sector LTO customer."

"...the 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," said Rodney Lord, Director of Infrastructure, Aquila Networks Canada.

"Customer experiences like that are the key to the future of the LTO technology," added Rudolph.

Based on a July 9, 2003 report by Gartner Dataquest titled “2003 Tape Automation Systems Forecasts,” more than twice as many LTO tape libraries were shipped in large automation solutions in 2002 as compared to libraries based on DLT/SDLT.

In July 2003, more than 10 million LTO Ultrium format tape cartridges – with a combined capacity of 2,000 petabytes – had shipped worldwide and now over 400,000 LTO Ultrium format tape drives have shipped since September 2000 when products based on the format first became commercially available.

The Ultrium format Generation 2 became available in December 2002, and new generations of LTO Ultrium technology are planned for introduction every 18 to 24 months. Generation 3 is currently planned to offer 800GB cartridge capacity (2:1 compressed), and up to 160MB/s data transfer speed (2:1 compressed).

The LTO technology is designed to offer value to users as much for its open standard and solid roadmap as for its high capacity, performance and reliability. LTO technology is being used to help manage and protect the ever increasing amounts of data that pressure backup and restore windows as well as to support the ability of users to reliably archive storage for regulatory requirements and reference data.

The LTO Ultrium format is the only super drive technology based on an open standards specification, providing the benefits of competition while supporting data interchange. This open standards specification, available for license to any manufacturer, already has an impressive roster of over 30 licensees. This allows users to choose from a number of tape drive and data cartridge offerings. This pro-competitive environment is intended to foster technological innovation, competitive pricing, and multiple sources of compatible products.

The LTO Ultrium format Generation 2's storage capacity and data transfer speed are among the highest in the industry at 400GB (assuming 2:1 compressed) cartridge capacity, with drive data transfer speeds of up to 70MB/s (assuming 2:1 compression). High-end robotic tape libraries using second-generation LTO Ultrium drives have recently demonstrated backup and restore speeds from three to five TB an hour. The second-generation Ultrium format tape drives also offer backwards-compatible read-and-write capability with the Ultrium format Generation 1, helping to protect the investment customers made in LTO technology.

### **How to License LTO Ultrium Technology**

The LTO Program offers several different license packages – from enhanced packages that provide the specifications to manufacture Ultrium Generation 2 products, to basic license packages, providing Ultrium format specifications and guidelines for interchangeability.

Buyers seeking Ultrium format-compliant products should look for the Ultrium format compliance verification marks on both tape drives and data cartridges. Storage and media manufacturers interested in licensing LTO technology may obtain information by contacting the Law Offices of Ladas & Parry at (323) 934-2300, or by e-mail at [LTO\\_INFO@ladasparry.com](mailto:LTO_INFO@ladasparry.com).

### **About Linear Tape-Open (LTO) Technology**

LTO technology is a powerful, scalable, open tape format created by technology providers Certance, HP, and IBM Corporation to help meet the growing demands of data protection in the midrange to enterprise-class server environments. This new generation of tape storage products is designed to deliver outstanding performance, capacity and reliability combining the advantages of linear multi-channel, bi-directional formats with enhancements in servo technology, data compression, track layout, and error correction.

The LTO Ultrium format storage solution is a single-reel, high-performance tape cartridge suitable for backing up, restoring, and archiving applications. As a technology for ultra-high capacity storage, the LTO Ultrium format has a well-defined four-generation roadmap for growth and scalability – a roadmap that projects a doubling of speed and capacity with each new generation.

While the LTO Program gives licensees wide latitude in implementing mechanical and electrical designs, strict adherence is required to format specifications impacting the ability to read and write Ultrium format tape cartridges. Independent compliance verification is vital to meet the free-interchange objectives that are at the core of the LTO Program. With numerous compliance checkpoints for each LTO technology product, end-users and OEMs can benefit from data interchangeability between LTO products regardless of the manufacturer.

Ultrium tape mechanism and tape cartridge interchange specifications are available on a licensee basis. For additional information on LTO Ultrium technology, visit the Ultrium Web site at [www.ultrium.com](http://www.ultrium.com).

Note: Linear Tape-Open, LTO, the LTO logo, Ultrium, and the Ultrium logo are U.S. trademarks of Certance, HP and IBM in the US, other countries, or both.

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\* Editor Note: The 2:1 market lead of the LTO Ultrium format over Super DLT is based on a report by Fara Yale, Research Vice President, Gartner Dataquest titled "Tape Drive Review and Forecast June 2003."

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