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For more information:
Corey Olfert
Fleishman-Hillard, Inc.
213/489-8253
olfertc@fleishman.com

**LTO PROGRAM ANNOUNCES AVAILABILITY
OF ULTRIUM SECOND-GENERATION TECHNOLOGY LICENSES**

*HP, IBM and Seagate Extend Technology Roadmap, Adoption of LTO Ultrium Format
With Generation Update Offering Backwards Read-And-Write Capabilities*

SILICON VALLEY, CALIF. — (December 12, 2001) — Reaffirming their continued commitment to further advance open format for linear tape storage, Hewlett-Packard Company, IBM Corporation (NYSE: [IBM](#)) and Seagate Removable Storage Solutions LLC, technology provider companies for the Linear Tape-Open (LTO) Program, today announced that licenses for second-generation LTO Ultrium technology will become available in the first quarter of 2002 to storage and media manufacturers. The second generation of the four-generation roadmap ensures that future adoption of the format will not impact the ability to use LTO products based on the previous generation.

"We see the midrange market as one of the strongest growth sectors for tape products over the next few years," said Fara Yale, Chief Analyst, Gartner Dataquest. "Technologies that are targeting this market must continually evolve and grow with new generations that meet the capacity, data integrity, and performance requirements of future servers and SANs. At the same time, a technology that is backed by broad industry support should be in a position to ensure availability well into the future."

The second generation of the LTO Ultrium format will provide users with doubled storage capacity over Generation 1, increasing to 400GB compressed (2:1 compression), and to 200GB native; and greatly-enhanced transfer rates, improving to 20-40MB per second. In addition, users will benefit from a greater than 30 percent increase in the number of tracks and average tape speed, as well as an improved recording method.

"The licensing of second-generation LTO technology represents a major milestone for the LTO Program and is another strong indicator of the open format's viability for the midrange networking computing environment," said Larry McMannon, general manager of Seagate Removable Storage Solutions. "Seagate, HP and IBM are dedicated to the continued advancement of LTO technology, as well as further establishing the Ultrium format as the preferred tape storage of choice for today's complex enterprises."

The LTO Ultrium format allows companies to simplify the configuration of their storage systems by offering a highly-flexible, cost-effective format available from a myriad of industry-leading storage and media vendors. The first generation of the technology has been well received by the tape storage sector, and the IT community at large, with approximately 30 licensees including media companies signing licenses to manufacture and market LTO Ultrium-based drives, autoloaders, and tape cartridges. In addition to OEMs HP, IBM, and Seagate, some of the most prominent companies in storage media, including EMTEC, Fujifilm, Imation, Maxell, and TDK, currently have LTO Ultrium products on the market.

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“This announcement demonstrates the Program’s commitment to delivering technology updates on time, on schedule, and in accordance with the specifications of the four-generation roadmap,” said Neville Pawsey, general manager of Hewlett-Packard’s Data Protection Organization. “So far, we have clearly outpaced other tape formats, so systems and network administrators can be assured that LTO Ultrium is very much on track with these and future enhancements to the technology.”

As an open specification, LTO Ultrium offers end-user customers and OEMs a host of benefits and advantages over competing formats. LTO Ultrium is the only tape storage platform on the market that provides users with the flexibility, low cost, and product selection associated with an open format. Because of the program’s extensive and prestigious licensee roster, users have access to multiple sources of products and tape cartridges, as well as common tape specifications for data interchange. This pro-competitive environment also leads to faster-paced innovation and enhancements, creates dynamically competitive market, and provides for data compatibility. Most importantly, the second generation of the Ultrium format provides users with even better data protection because of its backwards read-and-write capabilities.

“This significant achievement sends a compelling message to the IT and business communities that the LTO Ultrium format is a robust, innovative, and effective tape storage solution, for both the present and for years to come,” said Frank Elliott, vice president, OEM, IBM Storage Products Division. “IBM, in conjunction with HP and Seagate, will continue to deliver value, variety, and flexibility to customers, while providing regular technology updates to enhance performance, improve scalability, and reduce costs.”

Storage and media manufacturers interested in licensing second-generation 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.

About Linear Tape-Open (LTO) Technology

LTO technology, a powerful, open tape architecture, is setting the stage for a new generation of tape storage products that is expected to surpass current tape capacity and performance benchmarks, while maintaining the highest data integrity. It combines the advantages of linear multi-channel, bi-directional formats, with enhancements in servo technology, data compression, track layout, and error correction code, to maximize capacity, performance and reliability.

The LTO Ultrium format storage solution is a single-reel, high-performance tape cartridge ideal for backing up, restoring, and archiving applications. As the next market-leading tape technology for ultra-high capacity storage, the LTO Ultrium format is the only tape storage technology with a well-defined four-generation roadmap for growth and scalability, and offers significant data integrity improvements over current tape storage formats.

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 cartridges. Independent compliance verification is vital to meet the free-interchange objectives that are at the core of the LTO program.

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 <http://www.ultrium.com>.

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Note: Linear Tape-Open, LTO, and Ultrium are U.S. trademarks of HP, IBM and Seagate.