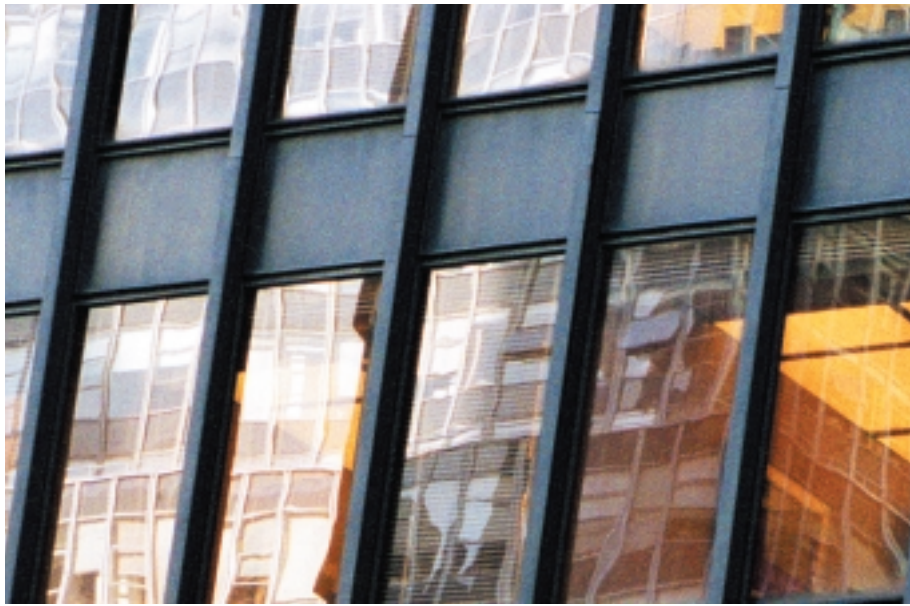




## HP StorageWorks ESL Tape Libraries

Manageable, reliable and flexible



## Integrated manageability

The HP StorageWorks ESL portfolio of enterprise tape automation products are fully integrated with HP's Extended Tape Library Architecture (ETLA) enabling the ability to manage more storage with fewer IT resources. HP provides self-aware tape storage designed specifically for the storage area network (SAN). ESL enterprise libraries and ETLA offer customers with enterprise SANs superior reliability, interoperability, and advanced functionality. ETLA also offers remote management of the entire library system from a single pane of glass including complete, unobtrusive management and control of the entire library system including robotics, drives, Interface Controllers, and Interface Manager card. ETLA eases complexities and eliminates errors in configuring, installing, and managing the entire tape library system within a SAN.

Improving administrator productivity and effectiveness by enabling them to manage more components from a single view. ETLA provides integrated manageability of components within the entire subsystem (drives, controllers, robotics) from a single pane of glass. Decreases both costs and administrative work through enhanced manageability from any location, ESL libraries and Extended Tape Library Architecture:

- Delivers best-in-class interoperability without "special" workarounds. It will work in your environment.

- Simplifies the complex task of setting up library robotics, drives, and Interface Controllers in a SAN.
- Minimizes uncertainty in complex SAN environments by allowing only authorized servers to access tape drives and critical data.
- Eliminates backup server and LAN bottlenecks by allowing data to move directly from disk to tape under the control of your backup application—but without application server overload.
- Provides investment protection by enabling an easy upgrade path as interface technologies change.

### Simple control—effortless management

HP StorageWorks Command View ESL software offers unmatched ease-of-use, monitoring, management, and control of ESL Tape Libraries in SANs. Command View ESL saves time and decrease costs through "best-in-class" library management. With its advanced features, you choose your management options: on the LAN by using a browser-based Graphical User Interface (GUI), or via web interface features. And, you select from a list of multiple supported libraries to manage, from library system asset information to health summaries for all library system components, including drives, robotics, Interface Controllers, and Interface Manager. Plus, Command View ESL gives you the ability to:

- View library inventory, including slots, media, and drives
- Search for media by barcode label
- View details on drives, robotics, Interface Controllers, and HP StorageWorks Interface Manager, including WWNs, speeds, and connection types
- Configure drives for use with HP StorageWorks Direct Backup Engine ESL

- Configure hosts/HBA-to-drive mapping and masking settings with HP StorageWorks Secure Manager ESL
- Automatically discover hosts and HBAs on the SAN, or add your own for access control and security purposes
- Upgrade firmware on the Interface Controllers and Interface Manager cards

## HP StorageWorks ESL Series Tape Libraries are engineered for growth in capacity, throughput, and interfaces.

- Configure IP network parameters for the management station and Interface Manager cards in each library
- Configure SNMP trap/event destinations to receive alerts asynchronously
- View persistent event logs for the library system

### On guard

HP StorageWorks Secure Manager ESL shields libraries and drives from disruptive SAN traffic that can abort operations and slow backups and restores. With the Secure Manager for ESL on guard, you facilitate stable system operations through the library from a single pane of glass. The library administrator chooses which library devices are accessed (drives and robotic controller) by various backup hosts on the SAN. This level of control reduces the possibility of bottlenecks and errors.

Secure Manager ESL delivers:

- Easily configured device-level security settings
- Access to tape drives and critical data to authorized servers only
- Management, through the library, from a single pane of glass

### Reliability

Today's business environments demand the best technology and performance for their IT needs. The HP StorageWorks ESL Tape Libraries offer the ultimate in a high-capacity, mission critical, unattended backup and restore solution. It's perfect for large server pools and centralized backup/restore requirements. With component level redundancy and high capacity, ESL Series Tape Libraries give you years of fully automated operation.

These libraries handle the toughest storage situations by offering these unique features:

- The highest density available
- Best robotics reliability at 3 million mean swap between failure (MSBF)
- Hot-swappable components
- Redundant power distribution, power supplies, and cooling fans
- Optimized library performance with HP branded tape media that performs beyond industry standards

The HP StorageWorks ESL9000 Tape Libraries are the ultimate in data protection, simplification, and investment protection. And, with HP StorageWorks ENSAextended strategy you get a strategic blueprint for building an adaptive storage infrastructure.

ENSAextended unifies your storage system's common resources enabling it to be provisioned, managed, and supported in a consistent and logical way.

### Flexible architecture retains investment

Rapidly changing system needs make a "one-size-fits-all" solution no longer practical. That's why the ESL family of tape libraries are engineered for growth in capacity, throughput, and interfaces. The base system scales throughput performance up to 1.73 TB per hour, satisfying even the smallest backup windows. The expansion option allows system growth to over 142.4 TB of native capacity or 2.5 TB/hr native throughput. Additionally, the Extended Tape Library Architecture ensures the library system is not only ready for your SAN but will protect your investment today as well as in the future.

### A good investment

The data protection world is constantly advancing, so how do you make sure you keep up with all the new enhancements? Answer: ESL Tape Libraries offer capabilities that allow you to upgrade to both future drive and interface technologies. The ESL family of tape libraries offer multi-unit scalability\* enhancing capacity and performance for maximum investment protection.

### Compatibility

For a complete listing on the ESL Tape Libraries that are qualified with various backup/restoration applications software packages and qualified servers please visit:

[www.hp.com/go/ebs](http://www.hp.com/go/ebs)

\*Multi unit scalability on the HP StorageWorks ESL E-Series Tape Libraries will be available late 2004



# HP StorageWorks ESL Tape Libraries

HP StorageWorks ESL Series Tape Libraries are the right answer for backup and restore requirements. These enterprise libraries coupled with the Extended Tape Library Architecture offer unique features including:

- Complete, unobtrusive management and control of the entire library system including robotics, drives, Interface Controllers, and Interface Manager card
- Web-based, centralized user interface, in addition to telnet interface on Interface Manager card
- Automation of complex and repetitive library system management tasks
- High SAN availability since management traffic stays out of the data path
- Simple Network Management Protocol (SNMP) support including asynchronous alerting
- Integration with major enterprise management applications
- Fast backups and high uptime with serverless HP StorageWorks Direct Backup Engine ESL
- Best-in-class interoperability and security with HP StorageWorks Secure Manager ESL

The ESL family of enterprise tape libraries delivers unprecedented levels of flexibility, capacity and availability for the most demanding enterprise environments.

## HP StorageWorks ESL E-Series Tape Libraries

The new HP StorageWorks E-Series enterprise tape libraries offer best-in-class drive and cartridge density. E-Series cartridge capacity scales to 712 LTO or 630 SDLT cartridges and 24 drives in a single library frame. Offered with both HP StorageWorks Ultrium 460 and SDLT 320 Tape Drive technology, the E-Series offers

best-in-class storage density with 14.2 LTO2 terabytes of native storage capacity per square foot.

Fully integrated into ETLA, HP provides self-aware tape storage designed specifically for the SAN. ESL E-Series Tape Libraries and ETLA offer customers with enterprise storage area networks superior reliability, interoperability, and advanced functionality. ETLA also offers remote management of the entire library system from a single pane of glass including complete, unobtrusive management and control of the entire library system including robotics, drives, Interface Controllers, and Interface Manager card. ETLA eases complexities and eliminates errors in configuring, installing, and managing the entire tape library system within a SAN.

To ensure compatibility with your current environment, the ESL E-Series Tape Libraries are fully certified in the Enterprise Backup Solution (EBS) program.

## HP StorageWorks ESL9322 Tape Library

The HP StorageWorks ESL9322 Tape Library with HP StorageWorks Ultrium 460 and 230 Tape Drives for enterprise customers sustain the industry's highest storage density with an extremely reliable backup and restore solution all in a compact footprint.

The ESL9322 Tape Library offers extreme configuration flexibility with 222 or 322 slots and up to 8 hot-plug drives. HP StorageWorks SDLT 220, SDLT 320, LTO Ultrium 230 and LTO Ultrium 460 Tape Drives provide up to 64.4 TB native capacity and 864 GB/hr native backup performance. Using a pass through mechanism, up to five ESL9322 Tape Libraries can be connected together to scale up to 1474 slots and 40 drives, for up to 294.8 TB native capacity and 4.32 TB/hr native backup performance (589.6 TB and 8.64 TB/hr at 2:1 compression). Plus, the ESL9322 Tape Libraries are qualified for direct SCSI attach and EBS FC SAN configurations.

# HP StorageWorks ESL9595 Tape Library

HP StorageWorks ESL9595 is geared for enterprise customers who need a highly reliable backup and restore solution. This innovative tape library offers 400, 500 or 595 slots and up to 16 hot-plug drives. For configuration flexibility, the ESL9595 Tape Library supports HP StorageWorks SDLT 220, SDLT 320, LTO Ultrium 230 and LTO Ultrium 460 Tape Drives, giving you up to 119 TB native capacity and 1.728 TB/hr native backup performance.

This library also allows you to use a pass through mechanism, to connect up to four ESL9595 Tape Libraries and scale up to 2278 slots and 64 drives providing 455.6 TB native capacity and 6.91 TB/hr native backup performance (911.2 TB and 13.82 TB/hr at 2:1 compression). And, the ESL9595 Tape Libraries are also qualified for direct SCSI attach and EBS FC SAN configurations.

The browser-based, graphical touch-screen control panel on the ESL9000 Tape Libraries achieves easy access to library functions.

1. The new enterprise HP StorageWorks E-Series Tape Libraries offer best-in-class drive and cartridge density.

2. The HP StorageWorks ESL9322 Tape Library with HP StorageWorks Ultrium 460 and 230 Tape Drives for enterprise customers sustain the industry's highest storage density with an extremely reliable backup and restore solution all in a compact footprint.

3. HP StorageWorks ESL9595 is geared for enterprise customers who need a highly reliable backup and restore solution.

## 1. HP StorageWorks ESL E-Series Tape Libraries



## 2. HP StorageWorks ESL9322 Tape Library



## 3. HP StorageWorks ESL9595 Tape Library





## HP StorageWorks Library & Tape Tools (L&TT)

The ESL Tape Library portfolio is fully supported on HP's industry-leading diagnostic tool—HP StorageWorks Library and Tape Tools (L&TT). L&TT is a single, convenient program that's a snap to install and simple to operate. L&TT's intuitive user interface eliminates the need for training and deploys in less than five minutes. This robust diagnostic tool is designed for both the experienced professional and the untrained administrator. It ensures product integrity through self-diagnostics and fast resolution to device concerns. Additional information on L&TT plus download information can be found at: [www.hp.com/support/tapetools](http://www.hp.com/support/tapetools)

## Media matters

Never assume that all media is equal or that it all performs alike. HP storage media raises the bar on industry standards. All HP storage media undergoes an exhaustive battery of procedures related directly to how the product is used in real world environments, when real data and businesses are at stake. The HP test program is designed to ensure HP branded media always offers maximum reliability even under the most extreme conditions. Our team experts, continually monitor and evaluate the quality of HP media. Our diligence provides the entire industry with continuous improvements and technological developments. And, in key areas relevant to ESL customers, we go even further performing the HP shoeshine test. This intensive test measures media durability for library applications by applying 1000 percent more stress to the media than the Ultrium logo compliance requires.

## HP OpenView Storage Media Operations software

HP OpenView Storage Media Operations is a software product that provides tracking and management of offline storage media, such as magnetic tapes used in ESL Libraries, resulting in more reliable backups, faster data recovery, improved staff efficiency, and reduced costs.

Unlike "home grown" tools, Storage Media Operations and ESL Libraries offer a professional solution for IT operations that manage thousands of removable media. It tracks all media whether online, offline, or offsite, ensuring that vital data is never lost. Data retention and media recycling policies are enforced for assured service quality. To guarantee backup success, Storage Media Operations monitors media quality and preloads ESL Tape Libraries with sufficient scratch tapes.

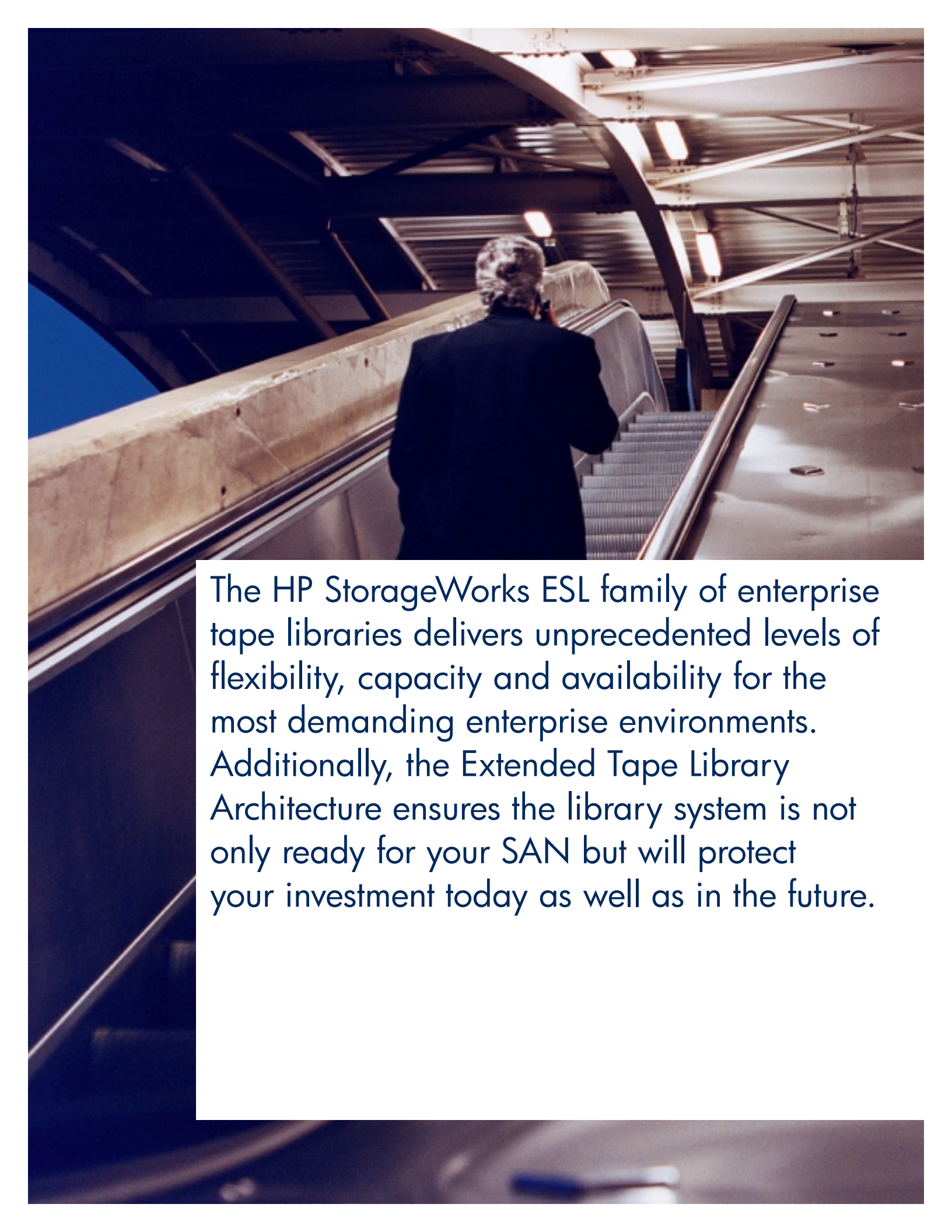
Designed in partnership with data center staff, Storage Media Operations with ESL Tape Libraries maximizes the effectiveness of media procedures by creating daily task lists, organizing tapes for logical data center walk throughs, and by enabling operator control of tape libraries, and barcode scanners.

Distributed architecture for centralized media control, Storage Media Operations:

- Centralizes media database
- Consolidates information across multiple media production sites
- Full support through firewalls and other network configurations
- Native Microsoft® Windows® client and web client for access from multiple locations

For more information please visit:

<http://h18006.www1.hp.com/products/sanworks/smo>



The HP StorageWorks ESL family of enterprise tape libraries delivers unprecedented levels of flexibility, capacity and availability for the most demanding enterprise environments. Additionally, the Extended Tape Library Architecture ensures the library system is not only ready for your SAN but will protect your investment today as well as in the future.



[hp.com/products/tapestorage](http://hp.com/products/tapestorage)

© 2003 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Microsoft and Windows are trademarks of Microsoft Corporation in the U.S. and/or other countries.

5982-3619EN, 02/2004

