IBM® TS1160 Technology:
The Most Reliable and Highest Capacity Tape Technology in the Industry

The IBM® TS1160 Technology offers the most reliable tape technology ever developed. Designed to provide enterprise-class reliability with 24 x 7 usage, the IBM® TS1160 Technology tape drive provides greater data integrity than an LTO tape drive.

In addition to robust reliability and data integrity, the IBM® TS1160 Technology offers the largest capacity per tape and the fastest data rate of any tape technology available. This translates into fewer tapes needed to store the same amount of data, less labor and time to manage the tape inventory, and reduced library, application and offsite slot costs. Superior performance provides customers with the ability to get the same amount of work done with fewer drives and lower support costs.

Equally important is the investment protection offered by this technology. With every new generation, this enterprise tape technology delivers significant gains in both capacity and data rate. For example, there was a 250 percent increase in capacity and 50 percent increase in data rate from IBM® TS1140 Technology to IBM® TS1150 Technology and a 100 percent increase in capacity from IBM® TS1150 to IBM® TS1160 Technology.

High Capacity: With 20TB native (50TB compressed at 2.5:1), you can consolidate your critical storage, simplify media management and confidently protect your data.

Fast Performance: Experience shorter backup windows and improved data access with the fastest tape drive on the market, delivering native data transfer rates of 400 MB/s and compressed data transfer rates of 900 MB/s.

Designed for Constant Use: 250,000 hour MTBF to meet demanding uptime requirements and ensure data is available when it's needed.

Superior Data Security: SKLM with AES-256 bit encryption and key management.

IBM® TS1160 Technology Tape Drive Features

Speed Matching:
12 read/write speed levels allow the drive to stream data to the tape from slower hosts. Speed matching enables better throughput and reliability in environments where host data rates are less than optimal.

Read Ahead:
Buffer size capable of reading ahead and caching up to 2,000 MB of compressed data delivers better performance in short-hop file locate operations.

High Resolution Tape Directory and Virtual Backhitch:
Improves performance for small file reads/writes while also reducing wear and tear on tape media.

Backward Compatibility:
Not offered by any other tape technology, the IBM® TS1160 Technology tape drive is capable of reformatting a 3592 JD tape cartridge providing up to 15TB of native storage capacity and up to 360 MB/s data transfer rate. The 3592 JC (TS1140) tape cartridge is READ ONLY with the TS1160 drive.

Linear Tape File System (LTFS):
LTFS allows users to organize and search the contents of a tape with the same methodology as a hard disk, improving access time to data. LTFS also makes it possible to drag and drop files in the same manner as disk.

IBM® TS1160 Technology Tape Drive Specifications

Reliability

Mean Time Between Failures (MTBF):
250,000 hours

Mean Swaps Between Failures:
300,000 tape load/unload cycles

Operating Environment

Temperature with Media: 60° to 90°F (16° to 32°C)

Relative Humidity: 20% to 80% non-condensing (limited by media)

Web Bulb Maximum: 78.8°F (26°C)

Power Consumption: 46 watts

Capacity: 20TB native (50TB compressed at 2.5:1)

Data Transfer Rates: Up to 400 MB/s native (up to 900 MB/s compressed)

Data Compression: Streaming Lossless Data Compression (SLDC) LZ-1 Implementation

Data Cartridges: 3592 JE media

Cleaning Cartridge: 3592 Cleaning Cartridge

Backward Compatibility: Read / Write
IBM® 3592 JC media TS1140 format – 4TB capacity, 250 MB/sec transfer rate – Read Only
IBM® 3592 JC media TS1150 format – 7TB capacity, 300 MB/sec transfer rate – Read Only
IBM® 3592 JD media TS1150 format – 10TB capacity, 300 MB/sec transfer rate – Read/Write
IBM® 3592 JD media TS1160 format – 15TB capacity, 360 MB/sec transfer rate – Read/Write

Interface: 8 Gb/s Fibre Channel or 16Gb/s Fibre Channel for TS1160 (optional) (10GbE or 25GbE RoCE Ethernet drive option available)

Encryption: AES 256-GCM (256-bit Advanced Encryption Standard)

IBM® TS1160 Technology and Spectra® TFinity® ExaScale Tape Library

TFinity 3-Frame				
DBAs	Slots	PB native	# of Drives	TB/Hr Native
6	1,350	27 PB	24	34.56

IBM® TS1160 Technology and Spectra® T950 Tape Library

T950 Base Frame				
DBAs	Slots	PB native	# of Drives	TB/Hr Native
6	594	11.88	24	34.56
3	684	13.6	12	17.3
1	738	14.7	4	5.76

IBM® TS1160 Technology and Spectra® T380 Tape Library

T380				
DBAs	Slots	PB native	# of Drives	TB/Hr Native
3	153	3.06	12	17.3
2	207	4.14	8	11.52
1	261	5.2	4	5.76