

# LTO tape

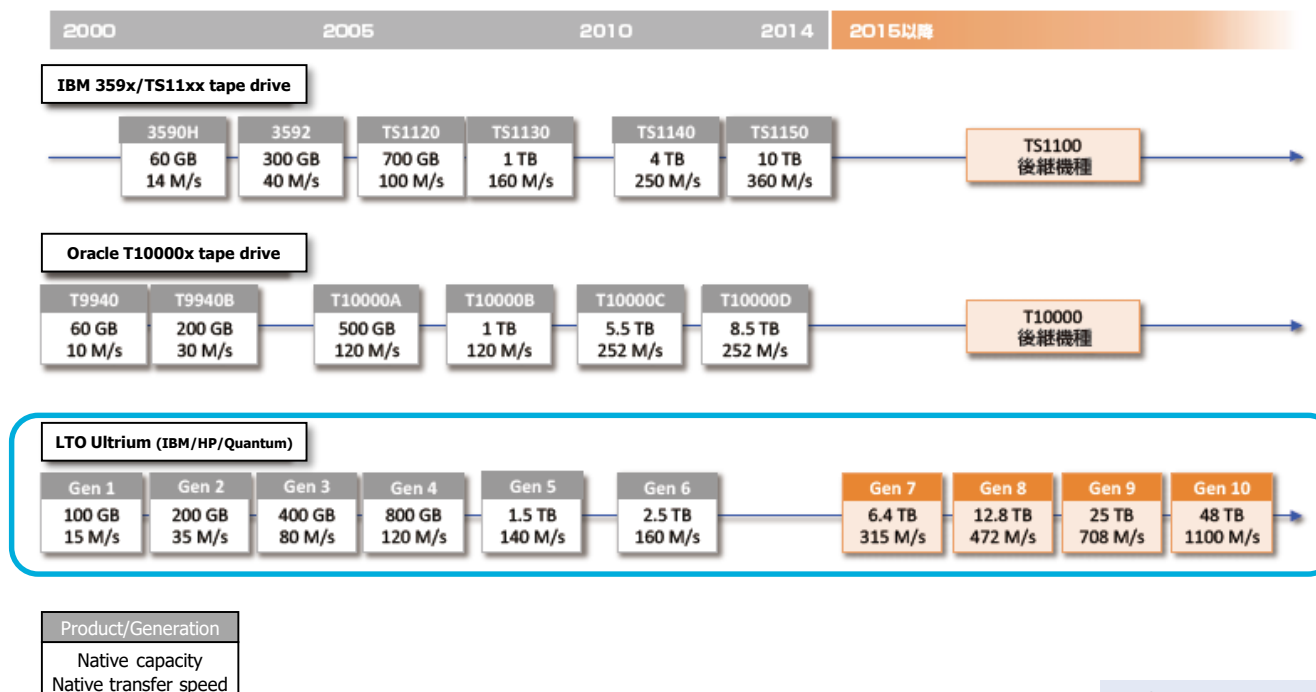


# History of Magnetic tape

## Magnetic tape has been playing an active part in the work site of backup and archive

Since introduced in 1951, it has been used in various fields, as of now three types shown below are mainstream, widely used for backup and archive

### Roadmap of each tape system standard



Source : JEITA

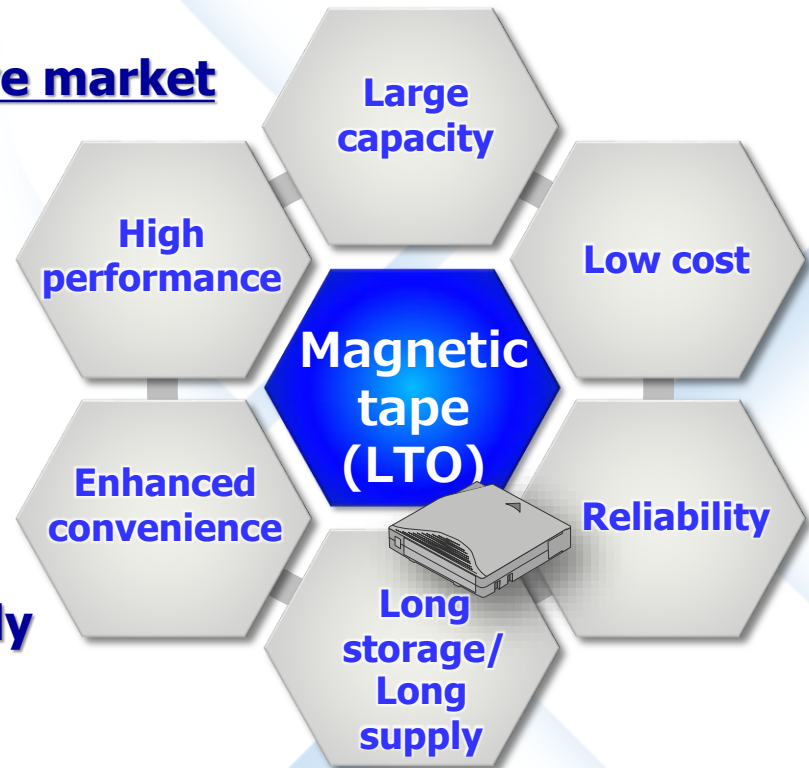
# LTO tape

## LTO tape supporting the work site of backup and archive

- LTO tape introduced in 2000 is active in a field that is closer to consumers than other magnetic tapes

### Requirements in the backup and archive market

- **Large capacity**
- **Low cost (low cost per bit)**
- **Reliability**
- **Long-term storage, Long-term supply**



Source : JEITA

Slide 3

# Other media and LTO tape

## RDX vs LTO tape

Comparison on RDX vs LTO tapes with the following items which are greatly related to data storage

➔ **LTO tape has advantages in terms of long-term storage of important data**

Item	RDX	LTO tape	Remarks
Cartridge cost	High	<b>Low</b>	<ul style="list-style-type: none"> <li>• Cost is very important when preparing large amount of media, such as long-term use or introduction at multiple sites</li> </ul>
Data transfer speed	120 MB/sec (HDD)	<b>240MB/sec (USB)</b>	<ul style="list-style-type: none"> <li>• Data transfer speed is very important because it directly affects processing time</li> </ul>
Lifespan of cartridge	5 - 10 years	<b>More than 30 years</b>	<ul style="list-style-type: none"> <li>• Very important for long-term storage</li> <li>• In case lifespan of cartridge is short, migration is required in anticipation of its lifespan</li> </ul>

# LTO global supply and stability (1)

## LTO consortium

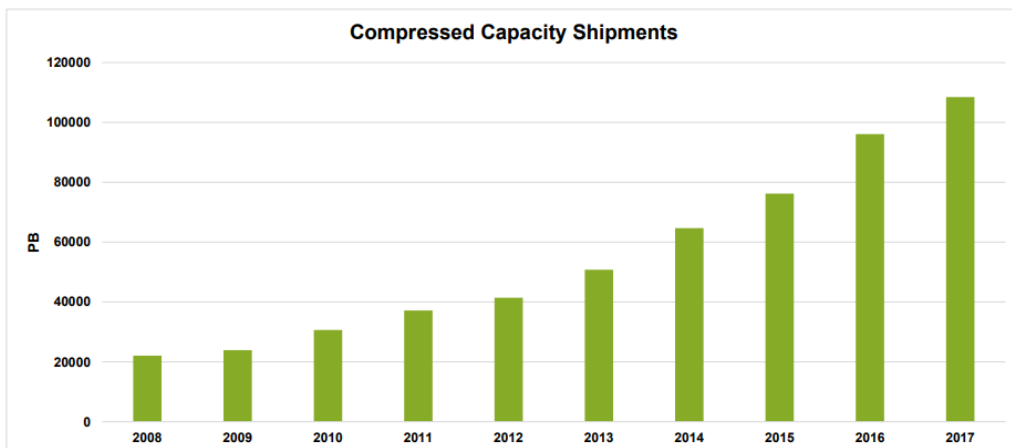
- **Many companies participate in LTO consortium such as Hewlett Packard Enterprise, IBM, Quantum, etc.**
- **Drive, Cartridge, and recording format are standardized by consortium**
- **Stability of not being only one company's unique product**

# LTO global supply and stability (2)

## LTO tape's stable supply and roadmap

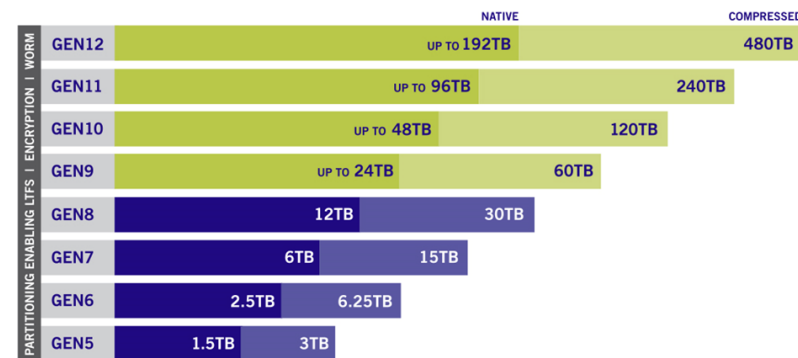
- Since LTO-1 in 2000, LTO tape continues the stable supply
- Released the roadmap until GEN12 (LTO-12) \* As of now released until GEN8
- Total capacity shipped are rapidly increased

Total Capacity Shipped: Calendar Year



出展 : LTO consortium "LTO MEDIA SHIPMENT REPORTS", March 2018

## LTO ULTRIUM ROADMAP ADDRESSING YOUR STORAGE NEEDS



NOTE: Compressed capacity for generation 5 assumes 2:1 compression. Compressed capacities for generations 6-12 assume 2.5:1 compression (achieved with larger compression history buffer).

SOURCE: The LTO Program. The LTO Ultrium roadmap is subject to change without notice and represents goals and objectives only. Linear Tape-Open, LTO, the LTO logo, Ultrium, and the Ultrium logo are registered trademarks of Hewlett Packard Enterprise, IBM and Quantum in the US and other countries.