

THE HISTORY OF TAPE

FROM PRIMARY BACKUPS TO LONG-TERM RETENTION, TAPE REMAINS A VIABLE - AND VITAL - MEANS OF PROTECTING DATA

CAPACITY: 2 million digits

1400kb

2.4GB

12GB

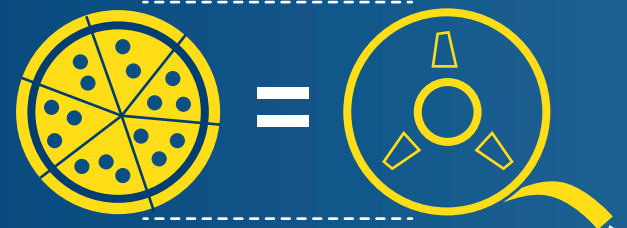
20GB

400GB

1.5TB

2.5TB

>48TB



WORLD, MEET TAPE! TAPE, MEET THE WORLD!

With the release of the **IBM 726 tape reader/recorder**, tape was created. Its drive was as big as a refrigerator and its reels were the size of a pizza. A single tape often **reached 1,200 feet in length**, but held just 2 million digits.

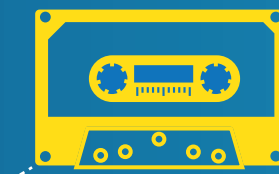
▶ **IBM 729** uses separate read/write heads to provide transparent read-after-write verification

▶ **IBM 2400** 9-track tape allows storage for every 8-bit byte plus a parity bit

▶ **Auto-loading tape reels and drives** on the IBM 3400 eliminate the need for manual tape threading

▶ **IBM 3480 drive** introduces **thin-film heads** and a 3MB per second transfer rate, with 200MB of storage

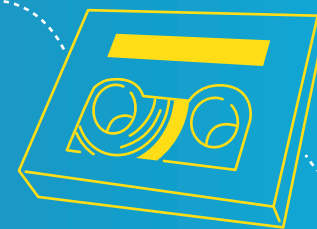
▶ **CASSETTES** are released, offering 700kb of data storage per side



▶ **FIRST HELICAL DIGITAL TAPE DRIVE**, the Exabyte EXB-8200, provides 2.4GB of storage



▶ **THIRD-GENERATION DDS (DDS-3)** increases capacity to 12GB

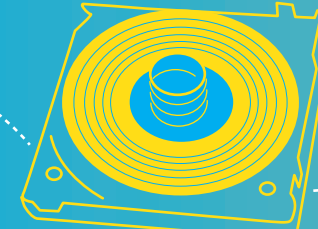


▶ **Virtual tape libraries** introduced

▶ **Digital Data Storage (DDS)** tape is released, first-generation model stores 1.3GB

▶ **DDS-4** delivers 20GB of storage

▶ **FIRST LINEAR TAPE-OPEN (LTO) TAPE** released, delivers 100GB of storage



▶ **Third-generation LTO (LTO-3)** adds the write once, read many (WORM) capability, increases capacity to 400GB

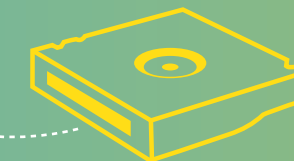
▶ **IBM 3592** integrates encryption capabilities into the drive

Online backups become a viable data protection measure



▶ **LTO-5** released, offers 1.5TB of storage

▶ **LINEAR TAPE FILE SYSTEM (LTFS)** format introduced



▶ **LTO-6** increases LTO capacity to 2.5TB

▶ **IBM TS1150** ups LTFS transfer rate to 360MB per second

WHERE DOES LTO GO NEXT?

There are big things in store for LTO. Future generations have already been planned, and each will take the capacity of tape to previously unseen levels.



MAY 21, 1952

1958

1964

1970

1972

1984

1987

1989

1996

1997

1999

2000

2005

2006

2008

2010

2012

2014

THE FUTURE

» TAPE AS A PRIMARY BACKUP MEDIUM

IT'S HARD TO IMAGINE NOW, BUT TAPE WAS ONCE A REVOLUTIONARY CONCEPT. IT FUNDAMENTALLY CREATED THE IDEA OF DATA PROTECTION AS WE KNOW IT TODAY. IT'S NO WONDER TAPE WAS THE **PRIMARY MEANS BY WHICH ORGANISATIONS BACKED UP AND RECOVERED THEIR CRITICAL DATA** FOR OVER 50 YEARS.

» **Got tape**, but want to make sure you're doing everything you can to **maximise its value for the long term**? With Iron Mountain, you can gain the peace of mind that your tapes are in good hands for the long haul, and that you can **restore your data from them at any time - especially when you need it most.**

To learn more, read the eBook "[Perfecting the Backup-Archive Balance.](#)"

» TAPE AS A LONG-TERM RETENTION TOOL

BY 2008, CLOUD BACKUPS WERE ALL THE RAGE. HOWEVER, THEY'VE DONE LITTLE TO DIMINISH TAPE'S IMPORTANCE. IN FACT, THANKS TO ITS SECURITY, RESILIENCE, HIGH CAPACITY AND AFFORDABILITY, TAPE HAS EMERGED AS THE **GO-TO MEDIUM FOR ARCHIVAL STORAGE.**