IBM Newsroom

Fujifilm and IBM Develop 50TB Native Tape Storage System, Featuring World's Highest Data Storage Tape Capacity(1)

TOKYO and ARMONK, N.Y., Aug. 29, 2023 /PRNewswire/ -- FUJIFILM Corporation (President and CEO, Representative Director: Teiichi Goto) and IBM (NYSE: IBM) today announced the development of a 50TB native tape storage system, featuring the world's highest native data tape cartridge capacity[1]. Fujifilm has commenced production of a high-density tape cartridge for use with IBM's newest enterprise tape drive, the TS1170. The sixth-generation IBM 3592 JF tape cartridge incorporates a newly developed technology featuring fine hybrid magnetic particles to enable higher data storage capacity.

Innovations in achieving 50TB Native Capacity

Fujifilm has succeeded in achieving this innovative cartridge capacity by evolving the technologies developed in previous tape generations. This involved enhancing both the areal recording density (the amount of data that can be recorded per square inch) and the overall recording area (the surface area capable of recording data).

- Nanoparticle Design Technology: Fine hybrid magnetic particles have been newly developed by combining the technologies used in the next-generation Strontium Ferrite (SrFe) magnetic particles and the Barium Ferrite (BaFe) particles that are currently used in high-capacity data storage tapes. Reduction in the size of the magnetic particles and enhancement in their magnetic properties significantly improves the areal recording density.
- High-dispersion technology for magnetic particles prevents the aggregation of individual ultrafine magnetic particles and allows for a more even dispersion of the particles.
- Improved thin layer coating technology achieves a more uniform and smoother tape surface, resulting in improved signal-to-noise ratio.
- A 15% longer tape per data cartridge compared to the previous fifth generation[2] is realized by using a thinner and stronger base film, which is for the support of the magnetic layer.

AI enhanced analytics are helping organizations derive value from exponentially increasing volumes of "big data" and prompting the need for long term, cost-effective, high-capacity data storage. With the TS1170 drive and 3592 JF tape cartridge, data-intensive organizations including growing cloud service providers can take advantage of the increased capacity of 3592 JF for long-term retention and security of these massive data sets.

Kei Nagata, Deputy General Manager of the Industrial Products Division at Fujifilm, says:

"With 50TB native capacity, 2.5 times the capacity of the previous highest-capacity tape cartridges[2], Fujifilm believes this breakthrough demonstrates the future potential of tape technology. The IBM 3592 JF tape cartridge is yet another milestone in many years of joint research and development with IBM, and we are honored to be the manufacturer of this product."

Alistair Symon, Vice President of Storage Systems Development at IBM, says:
"The advanced technology in the IBM 3592 JF tape cartridge will enable customers to realize high densities, which facilitates storage cost optimization while maintaining performance and time to data. This is the first tape storage medium with 50TB native capacity, and it demonstrates tape's viability as an optimal choice for data protection, active archives and long-term retention in scientific data, industrial data collection and cloud service provider environments."

The innovation of the IBM 3592 JF tape cartridge, only available on the new IBM TS1170 Tape Drive, provides the ability to store up to 150TB of data on a single tape cartridge with a 3:1 compression ratio, enabling clients to achieve ultra-high data storage on the TS1170.

About Fujifilm

FUJIFILM Corporation, Tokyo, is an operating company of FUJIFILM Holdings Corporation along with FUJIFILM Business Innovation Corporation. FUJIFILM Holdings leverages its depth of knowledge and proprietary core technologies to deliver Value from Innovation in our products and services in the business segments of healthcare, materials, business innovation, and imaging. Our relentless pursuit of innovation is focused on providing social value and enhancing the lives of people worldwide. Fujifilm is committed to responsible environmental stewardship and good corporate citizenship. For more information about Fujifilm's Sustainable Value Plan 2030, click here. For the year ended March 31, 2023, the company had global revenues of approximately 2.9 trillion JPY (21 billion USD at an exchange rate of 134 JPY/USD). For more information, please visit: www.fujifilmholdings.com.

About IBM

IBM is a leading provider of global hybrid cloud and AI, and consulting expertise. We help clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs, and gain the competitive edge in their industries. More than 4,000 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to effect their digital transformations quickly, efficiently, and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and consulting deliver open and flexible options to our clients. All of this is backed by IBM's long-standing commitment to trust, transparency, responsibility, inclusivity, and service.

Visit www.ibm.com for more information.

*1 Based on comparison of available tape cartridge technology from the Linear Tape Open (LTO) format with LTO-9 capacity of 18TB and existing IBM Enterprise tape cartridge JE capacity of a maximum 20TB, as of August 29, 2023.

*2 The fifth-generation 3592 JE Tape cartridge.

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