

# Optimise your data security with LTO tape technology

In today's world, companies face many challenges when it comes to archiving their data, especially as we are encountering an explosion in the amount of data created every day. This is a result of increasing legal requirements, new applications and IoT.

One of the major challenges facing organisations is the security of their data. There are vast consequences if data loss or a cyber-attack occurs – from costly ransomware and large fines through to damage to a brand's image, the risk of job losses, loss of confidence and even investment in an organisation.

There are many advantages of using LTO tape technology, especially in terms of data security.

## 9 ways that LTO tape technology protects your data

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**1. Air-Gapped Protection:** LTO tape technology enables offline protection, isolating data from potential cyber threats. This provides an extra layer of defence against ransomware attacks or unauthorized access, reducing the risk of data loss or compromise. Also, by securely saving your data offline on LTO tape, you have greater authority over the situation and can minimise the risk of being targeted by cybercriminals seeking to extort money from your organisation.
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**2. Data Integrity:** LTO tape technology is renowned for its reliability, providing an extra layer of assurance that data remains intact and uncorrupted over time, ensuring that data saved today will be readable for decades to come. Tape offers a data integrity that is 100,000 times greater than disk with a bit error rate of  $1 \times 10^{20}$  (10,000PB) on LTO9 compared with  $1 \times 10^{15}$  (100TB) on disk Sata Enterprise.<sup>1</sup>
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**3. Long-Term Data Retention:** LTO tape technology enables you to archive your data for over 30 years, ensuring your data remains secure and accessible when required.
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**4. Data Immutability:** LTO tape technology offers a write-once, read-many (WORM) capability, which means that once data is written to a tape, it cannot be modified or deleted. This feature is crucial for compliance and regulatory requirements that mandate data integrity and non-alterability.



**5. Disaster Recovery and Flexibility:** LTO tapes are physical assets that can be stored in secure locations. Second copies that are stored offsite are crucial in the event of a catastrophe, such as natural disasters, fires, or cyber-attacks that may affect an organisation's primary data centre. They can often provide more comprehensive and extensive recovery capabilities compared to cloud-based backups or backup snapshots, which can be vulnerable to cyber-attacks. This increased flexibility significantly mitigates the impact of a ransomware attack and minimises the associated expenses related to downtime, investigations, and legal complexities.



**6. Data Encryption:** LTO tape technology provides robust hardware-based encryption for the latest tape generations, ensuring data security during transportation. By employing a sophisticated algorithm, the encryption process does not compromise compression, performance, or storage capacity during archiving.



**7. Scalability:** This is a key advantage of LTO tape libraries, making them suitable for organisations of all sizes. With LTO tapes, you can seamlessly scale your data storage capabilities to meet the increasing demands of your company.



**8. Portable:** LTO tape technology offers excellent portability for securely transporting data between data centres. Unlike traditional HDDs, which are less durable for routine transportation, and costly SSDs, LTO tape provides a reliable and cost-effective solution. Transferring data from the cloud can be time-consuming, congest bandwidth, and expose files to security risks. In contrast, LTO tape technology acts as a portable, low-cost, high-bandwidth solution. It can be easily handled, fully removable, and transportable. Furthermore, since it is so easy to remove the tapes from the tape library, as many copies as required can be generated and stored in different sites for even higher security.



**9. Committed to the future:** The LTO tape roadmap extends to the fourteenth generation with capacities increasing between generations since its introduction 20 years ago. LTO tapes are predicted to exceed 100 TB native by 2030 and to reach 576 TB native within the next decade. In fact, under test conditions in 2020, Fujifilm have already proven the ability to reach 580TB of native capacity on a single tape cartridge.

Overall, LTO tapes offer robust security benefits for data archiving by providing offline storage, physical security, data durability, WORM capability, disaster recovery capabilities, and many more. As a result, LTO tape technology is a reliable and secure choice for organisations seeking to protect and preserve their valuable data for long-term.

<sup>1</sup> S. Arslan, M. Lantz, S. Furrer, G. Spratt, T. Goker: LTO-9 TECHNOLOGY AND USER DATA RELIABILITY ANALYSIS, 2022