Bridge the Gap between Productivity and Flexibility in Long-Term Data Protection

Simplify deployment of scalable, high-capacity storage and protect critical assets with IBM Tape Libraries and ATTO XstreamCORE.

Highlights

Extend the reach of your IBM tape Library across an existing Ethernet network.

Simplify IT operations with centralized access and control of backup, data retention, and compliance with ATTO XstreamCORE.

Maximize ROI by freeing up rackspace, reducing operational overhead, and minimizing carbon footprint.

Unlock data resilience with enterprise class-reliability, uptime, and data integrity.

Tape is rising as a secondary storage in the Zettabyte era, making it the most economical and environmentally friendly storage solution available.

Data is Exploding – and your storage workflows can't keep up.

Organizations across industries are generating massive volumes of data – from high-resolution video content and sensitive financial records to scientific simulations, AI-generated, and regulated health data. Much of this information must be retained for years, if not decades.

Tiered storage architectures are increasingly advocated, with tape storage serving as a high-capacity, durable, and offline tier for data retention. At the same time, cloud repatriation is driving many businesses to bring data and applications back on premises. This shift requires infrastructure that can overcome legacy limitations and scale effortlessly on demand. While tape remains the most cost-effective, energy efficient, and secure medium for duplicated backups and long-term data preservation, modern workflows are often not optimized to take full advantage of tape's reliability and storage density.

Challenges

- **Single-Server Dependency** – Tape library must be directly tied to a single server, limiting flexibility, underutilizing tape resources, and creating data silos.
- **Manual Oversight** – Backup and archive tasks often require hands-on intervention, lacking centralized control, and increasing administrative burden.
- **Complex Cabling & Management** – Point-to-point connections introduce clutter, complicate deployment, and make scaling infrastructure more difficult.
- **Overprovisioning** – Expanding capacity traditionally requires additional servers and dedicated resources, driving up costs.
- **Reduced Agility and Higher Costs** – Rigid setups hinder modern data protection strategies, increasing CapEx and OpEx while reducing responsiveness to growing business demands.

As data volumes continue to grow, these environments are becoming increasingly decentralized and traditional *direct-attached* tape workflows are struggling to keep pace with it. Businesses and IT enterprises often find themselves locked into rigid backup architectures, where each tape library is tethered to a single server, requiring manual oversight, complex cabling, and limited scalability. This outdated model creates data silos, increases operational overhead, unnecessary hardware costs, and undermines the flexibility that modern data protection strategies demand.

ATTO

Speed up deployment of tape storage with simplified, network-based connectivity.

In the event of an unplanned downtime, remote access to backup infrastructure ensures that critical data remains accessible and protected, reducing recovery times, and minimizing business disruption.

Streamline Backup and Archiving to Tape Storage over Ethernet

By leveraging the ubiquity of Ethernet infrastructure, data-intensive workflows now have the ability to easily deploy tape storage and extend its reach to multiple hosts or client systems while eliminating dependency on precious compute resources. The combination of IBM TS4300® Tape Library and ATTO XstreamCORE® 8100T intelligent bridge brings tape into the modern data center, enabling seamless integration of tape storage without cost and complexity.

IT teams can orchestrate backups or offload data from high-performance storage tiers or expensive primary storage to cost-effective tape storage across a distributed ecosystem - overcoming the limitations of direct-physical connections between a tape library and a server. Offering a high-level of visibility, control, and ownership of data, this innovative approach facilitates consolidation, simplification, and centralized access to IBM Tape Libraries.

Centralize Control and Distribute Access of Consolidated Backup and Archive Pools

XstreamCORE 8100T allows organizations to allocate tape assets to multiple hosts, improving utilization and lowering infrastructure costs. Unlike traditional server-based or direct-attached tape configurations, 8100T transparently bridges tape drives and libraries via iSCSI, just as if it were direct-attached, allowing distributed workflows to benefit from simplified deployment, increased flexibility, and sustained performance without the need for dedicated servers.

When a connected host becomes unavailable, XstreamCORE retains key configuration settings and maintains uninterrupted connectivity to the IBM TS4300 tape library by seamlessly handing off control to an alternative host – ensuring continuity in backup operations without the need for manual intervention or causing loss of data. This is particularly useful in a virtualized environment, involving movement of virtual hosts that talk directly to the tape hardware.

For IT leaders and data center architects managing backup, archive/long-term data retention, or tiered storage environments, XstreamCORE presents an efficient way to connect IBM TS4300 SAS-based tape libraries to existing Ethernet networks without complexity or accruing costs.

IBM TS4300 with IBM Storage Archive & ATTO XstreamCORE delivers modern data protection with centrally managed access to tape storage, enabling organizations to accelerate backups, strengthen security, meet compliance requirements, and simplify long-term data retention with high availability.
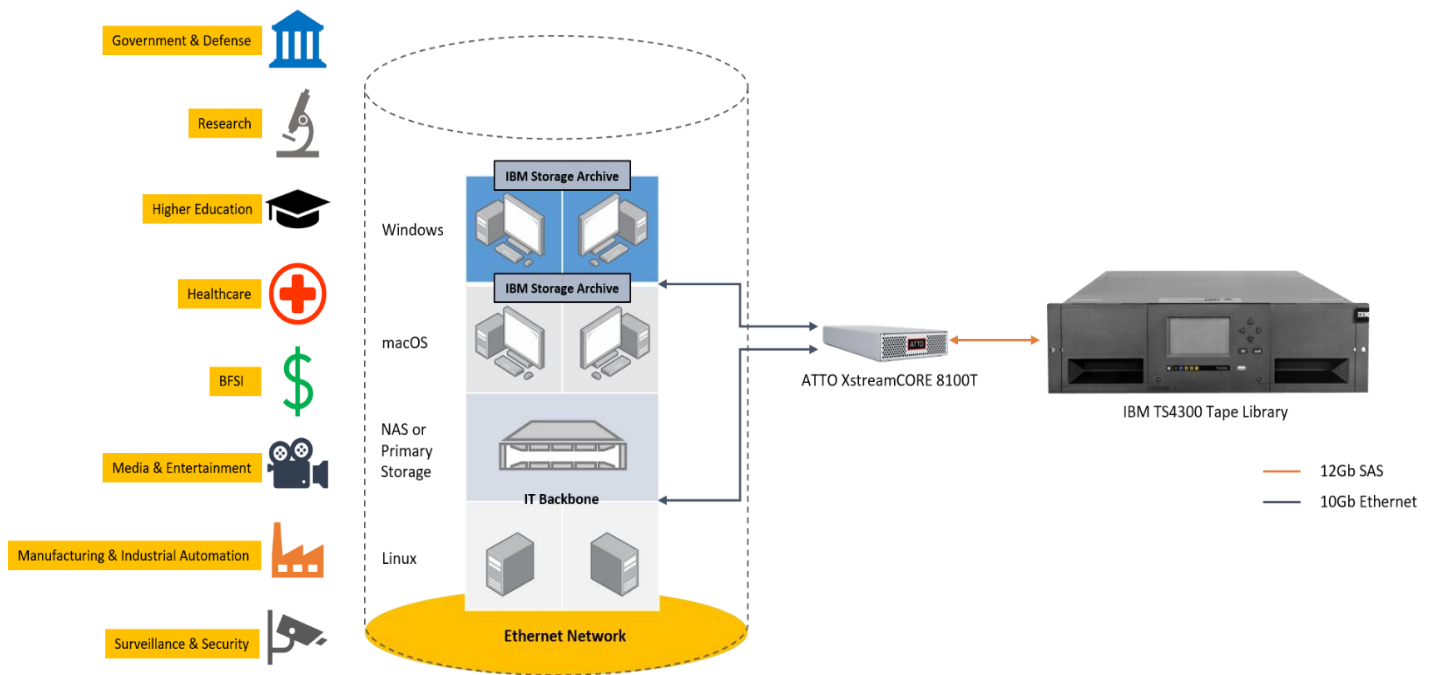
Support collaborative workflows with a least-effort approach to storage and retrieval.

Reduce backup windows by up to 30% with simultaneous writes to multiple tape drives from multiple hosts.

Take complete control of your data with 3x better visibility, improved access, and ease of use.

Use Cases

Media and Entertainment

With the explosion of 4K, 8K, HDR and RAW formats, media workflows generate immense volumes of high-resolution content daily. Using XstreamCORE, production environments can offload media assets, video footage, and edited files to a tape Library over Ethernet, freeing up high-performance storage for active editing tasks. Editorial, visual effects, and asset management teams can access archived content on-demand from anywhere in the facility or remotely – without burdening productions SANs, overprovisioning disk arrays, or compromising on performance or budgets.

Higher Education & Research

Academic institutions and research centers often deal with ever-growing datasets from simulations, laboratory instruments, AI models, and student projects. IT departments can eliminate complexity of managing direct-attach tape drives across departments with centralized access to a scalable TS4300, accommodating petabytes of data while maintaining secure, low-cost, long-term storage. Departments retain full control of their datasets and can restore them on demand, helping ensure academic continuity and reproducibility of research while adhering to data protection laws.

Financial & Legal Services

BFSI and Litigation firms must retain records for years – sometimes even longer – to meet regulatory compliance and audit requirements. When combined with XstreamCORE, tape offers a tamper-proof, immutable archive that is readily available for storing and retrieval of sensitive information. By enforcing access control rules, organizations can centralize and restrict data accessibility while maintain chain-of-custody requirements.

Intelligent and secure workflow orchestration, reducing manual touchpoints while adhering to compliance mandates.

Enable long-term data retention, offering up to 4x lower TCO than disk-based storage.

Centralize management of medical records and diagnostic imaging without needing dedicated expertise.

Implement a robust data protection strategy that focuses on the overall management of information security, availability, and recovery.

Government & Defense

Public agencies, defense organizations, and intelligence departments require the highest level of data sovereignty, resilience, and cyber-risk mitigation. By reducing the need for multiple siloed backup systems, critical data can be archived in an offline state to the tape library, protecting against cyberattacks while maintaining secure access to multiple systems via XstreamCORE. The flexible nature of this architecture enables remote management and troubleshooting even in rugged or resource-constraint environments with minimal IT footprint and maximum control to protect sensitive data.

Surveillance

Smart city surveillance networks, transportation hubs like airports, metro stations, and private security firms generate massive amounts of video footage from IP cameras and IoT security devices. Archiving these large, sequential data streams to tape via XstreamCORE reduces the load on expensive disk-based storage, while ensuring footage is retained for as long as required by law or corporate policy. The centralized architecture allows security teams to search, retrieve, and review archived footage quickly – whether for investigations, legal proceedings, or compliance – without needing to maintain an oversized, always-on storage footprint.

Healthcare & Life Sciences

Hospitals, clinics, and life sciences organizations generate vast amounts of sensitive data – diagnostic imaging, PHRs, PACS, and EMRs to name a few. With strict HIPAA, GDPR, NHS and data retention mandates, tape is an ideal platform for secure, long-term archiving. Healthcare IT teams can connect SAS-based tape libraries to Ethernet networks directly, centralizing archive workflows while isolating cold data from cyber threats. With added benefits of ease of use and simplified integration with healthcare IT systems, medical facilities and research organizations can keep pace with growing volumes of data without needing specialized expertise.

Industrial Automation & Manufacturing

Modern manufacturing and industrial operations, and oil & gas exploration workflows rely on data-driven systems that generate large volumes of machine telemetry, CAD files, geospatial imaging, quality assurance record, data from sensors and connected machinery, production logs, and digital twins. In high-availability environments, XstreamCORE allows decoupling of tape from local servers and integrate TS4300 into a centralized backup and archiving infrastructure. This simplifies data management while improving durability and operational continuity – essential for process optimization and compliance.

Add Capacity with Growth, Without Complex Integration

IBM® TS4300 Tape Library is a high-density, highly scalable, easy-to-manage solution designed to keep data securely stored long-term, while helping reduce the costs associated with data center space and utilities. Its modular design enables you to increase cartridge and drive capacity as needed—scale vertically up to sixteen modules with expansion for Linear Tape-Open (LTO) Ultrium cartridges, drives and redundant power supplies.

- Combines enterprise tape automation and reliability with open system affordability.
- Enhance modern data protection with WORM and library-managed encryption services.
- Leverage IBM Storage Archive for direct, intuitive, and graphical access to data stored.
- Best-in-class error recovery and reporting, library health, monitoring, and alerting, and auto-recovery features.
- Securely store data long-term while reducing costs with a high-density solution.

Tape Library	IBM TS4300
No. of Tape Drives Supported	Up to 1x FH and 1x HH (or) 3x HH
No. of Media Slots	40 per module; Max. Config - 640
Maximum Native Capacity	720TB per module; Max. Config – 11.52PB
Tape Drive Interface	SAS
Tape Generation	LTO-7 or later
Form Factor	3U

[1]Maximum configuration is one (1) control module and sixteen (16) expansion modules.

ATTO XstreamCORE®	XCET 8100T
Network Connectivity	10GbE Ethernet (iSCSI)
No. of Tape Drives Supported	Up to 4 SAS LTO
No. of Network Ports	Dual 10GbE Optical/Copper
Tape Connector	Single 12Gb/s miniSAS HD
Tape Generation	LTO-5 or later
Max Throughput	2000MB/s
LTFS Support	Yes
Backup ISV Support	Agnostic
Security Features[1]	Yes
Operating System Support	Linux, Windows, and macOS

[1]User authentication and tape hardware assignment is facilitated securely using CHAP (Challenge-Handshake Authentication Protocol) and ACL (Access Control Lists).

A Smarter Way to Meet Your Growing Storage Demands with an End-to-End Solution

Combining the scalability and reliability of IBM Tape Libraries with the network-bridging intelligence of the ATTO XstreamCORE 8100T, you can gain more than just a storage solution – you gain a strategic advantage. Consolidate your resources, reduce IT complexity and lower costs while keeping tape assets secure, accessible, and ready for the unexpected.

Whether securing petabytes of valuable data, streamlining operations across multiple sites or meeting strict compliance requirements, this joint solution provides the performance, flexibility, and confidence your organization needs to thrive. Its modular design enables scalable growth without downtime or forklift upgrades, ensuring a future-ready path for long-term data protection.

Connect with your IBM Sales Representative today to see how the TS4300 and XstreamCORE 8100T can transform your data management strategy.

For more information

To learn more about IBM Diamondback, IBM Storage Archive, or ATTO XstreamCORE, contact your IBM or ATTO representative, or Business Partner, or visit https://ibm.biz/Bdeu8D , https:/ibm.biz/Bdeugy and https://ibm.biz/ATTO-Bridge.