



ATTO

Railway Operator Expands Fibre Channel Storage Capacity at 40% Lower Cost with ATTO XstreamCORE®

ATTO XstreamCORE 7600 enabled a European regional rail operator to add scalable, high-capacity SAS storage to its existing Fibre Channel SAN—without re-architecting the infrastructure, compromising redundancy, or disrupting operations.

ATTO XstreamCORE® Intelligent Bridges

Background

A regional railway network in Europe needed to optimize its Fibre Channel (FC) storage infrastructure to handle growing data volumes generated by real-time operations, maintenance analytics, and regulatory reporting.

Their core infrastructure relied on a tightly-coupled software-defined (SDS) platform to deliver unified file and block services over its FC-SAN. A flash-based primary storage delivered performance but came at a high cost and limited scalability as data volumes grew. The IT team sought a cost-effective way to expand storage capacity and protect data—without compromising redundancy or re-architecting their FC SAN.

The Challenge

The regional railway operator relied on a software-defined storage (SDS) platform to deliver unified file and block services across its Fibre Channel SAN. As data generated by real-time operations, maintenance analytics, and regulatory reporting continued to grow, so did the demand for storage capacity.

Key Solution Features:

- **40% Lower Expansion Cost** compared with adding new Fibre Channel-native storage capacity
- **Zero Downtime** with the ability to automate and replicate backups.
- **60–70% of Primary Flash Capacity Reclaimed** and access to backup copies stored on tape, streamlined operations and improved efficiency.
- **3× Greater Operational Efficiency** storage expansion and lifecycle management became significantly more efficient.

Its flash-based primary storage delivered the performance required for critical workloads, but expanding that tier alone would significantly increase cost. The IT team needed a more efficient way to add capacity and protect growing datasets while preserving its existing Fibre Channel architecture, redundancy, and established operational workflows.

Replacing the SAN or introducing an entirely new storage architecture would add cost, complexity, and operational risk. The better approach was to **extend the value of the infrastructure already in place.**

The Solution

The railway operator deployed ATTO XstreamCORE® 7600 Intelligent Bridges within its existing software-defined storage environment to connect multiple high-density SAS JBODs directly to its Fibre Channel SAN.

XstreamCORE presented the additional SAS capacity as block storage to the existing infrastructure while preserving Fibre Channel visibility, zoning, and multipath redundancy. This allowed the organization to expand storage capacity without changing established host workflows or requiring the SDS platform to manage the SAS hardware directly.

ATTO XstreamCORE uses purpose-built hardware to bridge storage protocols, delivering predictable performance while allowing compute and storage capacity to scale independently. By handling Fibre Channel-to-SAS translation without intermediary gateway servers, XstreamCORE simplifies the data path, reduces infrastructure complexity, and helps maintain the performance and reliability required for continuous operations.

With XstreamCORE in place, the organization could use each storage tier where it delivered the greatest value. High-performance flash remained available for latency-sensitive and performance-critical workloads, while older and less frequently accessed data could be replicated or moved to high-capacity SAS storage.

The result was a more efficient hybrid storage architecture that expanded capacity, improved utilization of existing flash resources, and extended the value of the organization's Fibre Channel infrastructure—without requiring a disruptive SAN redesign or introducing unnecessary operational complexity.

Why ATTO XstreamCORE

Preserve Existing Infrastructure

Expand storage capacity behind the existing Fibre Channel SAN instead of undertaking a costly storage or network replacement.

Simplify the Architecture

Hardware-accelerated Fibre Channel-to-SAS connectivity removes the need for intermediary gateway servers and eliminates complex SAS management at the host level.

Optimize Performance for Real Workloads

ATTO Advanced Data Streaming (ADS™) technology helps maintain consistent, low-latency throughput across sustained and mixed I/O workloads.

Protect Availability

Existing Fibre Channel zoning, multipathing, and redundant storage configurations remain intact, supporting continuous operation in a mission-critical environment.

Outcomes

Rather than replacing a proven Fibre Channel environment, the railway operator used ATTO XstreamCORE to extend its value.

The resulting architecture combines high-performance flash with cost-efficient SAS capacity, allowing storage resources to be aligned more precisely with workload requirements. At the same time, XstreamCORE abstracts the SAS layer from the SDS platform, reducing management complexity while preserving the availability and redundancy required for mission-critical operations.

The organization achieved a reported **3× improvement in operational efficiency** for storage expansion and lifecycle management, while establishing an architecture capable of scaling from hundreds of terabytes toward petabyte-scale capacity with greater control over cost per terabyte.

ATTO XstreamCORE transformed storage expansion from a costly infrastructure replacement decision into a controlled, scalable extension of an existing investment—delivering more capacity, greater efficiency, and lower operational risk.

