

# Tape SCSI monitoring and encryption at CERN

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CERN currently manages the largest data archive in the HEP domain; over 135PB of custodial data is archived across 7 enterprise tape libraries containing more than 20,000 tapes and using over 80 tape drives. Archival storage at this scale requires a leading edge monitoring infrastructure that acquires live and lifelong metrics from the hardware in order to assess and proactively identify potential drive and media level issues. In addition, protecting the privacy of sensitive archival data is becoming increasingly important and with it the need for a scalable, compute-efficient and cost-effective solution for data encryption.

In this paper we first describe the implementation of acquiring tape medium and drive related metrics reported by the SCSI interface and its integration with our monitoring system. We then address the incorporation of tape drive real-time encryption with dedicated drive hardware into the CASTOR hierarchical mass storage system.

## Tertiary Keyword (Optional)

Security and policies

## Primary Keyword (Mandatory)

Storage systems

## Secondary Keyword (Optional)

Monitoring

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