FAST LTA

Customer Case Study | Silent Bricks | Virtual Tape Library

How the Bundesarchiv archives digitised heritage more than twice as fast

External digitisation partners delivered large volumes of files on USB drives and hard drives. Transferring and verifying these files slowed down their intake into the German Federal Archives. With removable SSD-based Silent Bricks, an additional copying step was eliminated; according to the Bundesarchiv, processing time was more than halved.

Data transfer slowed down digitisation

The Bundesarchiv preserves records, films and materials from the former German Democratic Republic (GDR), among other collections. Digitisation is carried out partly in-house and largely by external service providers. The files must be transferred securely to the archive, checked for integrity and processed for long-term preservation. In the 2022 case study, the IT team reported receiving up to 10 PB of incoming data per year.

Delivery on USB drives and hard drives was a bottleneck. According to IT specialist Timo Dommermuth, copying from these storage media reached approximately 80 MB per second under optimal conditions. This was followed by verification, conversion into TAR files and transfer to tape. As a result, it could take up to two weeks before a delivery was fully incorporated into the archive. Problems with USB drives had previously sometimes required materials to be digitised again.

The experiencE?

“During the POC, we found that Silent Bricks allowed us to achieve transfer speeds of 500 to 700 megabytes per second for large files. This offers enormous advantages and significantly streamlines the process.”

Timo Dommermuth, IT Specialist at the Bundesarchiv



Photos: Bundersarchiv, May 2022

COMEX

Storage media enter the archiving process directly

Starting in late 2018, the Bundesarchiv worked with IT partner Bechtle AG and FAST LTA to explore a different delivery method. Digitisation partners write files directly to removable Silent Bricks with SSD storage. After transport to the Bundesarchiv, the Bricks are inserted into a controller and connected to the archive via NFS. This eliminates the additional copying step from a USB drive, while integrity checks and final storage on tape remain part of the archiving process.

External service providers were also involved in the trial. The first phase consisted of twenty Silent Bricks and two controllers. According to Dommermuth, the partners could work with the storage media without making any adjustments; approximately six months passed between the initial concept and implementation. The removable media also enabled the recurring transfer of digitised data between locations.

Faster availability for research and the public

During the trial, the team measured transfer speeds of 500 to 700 MB per second for large files. According to the case study, the revised process more than halved processing times, making digitised records available sooner. The archive also reported no further data loss caused by problems during transport with the new setup.

This result benefits an institution where a request often directly triggers digitisation: a paper document requested for consultation can be digitised at the same time. The Bricks accelerate delivery and processing; long-term preservation itself continues to take place on tape according to the described workflow.