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The GridKa Tape Storage: various performance test results and current improvements

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Data growth over several years within HEP experiments requires a wider use of storage systems for WLCG Tiered Centers. It also increases the complexity of storage systems, which includes the expansion of hardware components and thereby complicates existing software products more. To cope with such systems is a non-trivial task and requires highly qualified specialists.

Storing petabytes of data on tape storage is still the most cost-effective way. Year after year, the use of a tape storage increases, consequently a detailed study of its optimal use and verification of performance is a key aspect for such a system. It includes several factors, such as performing various performance tests, identifying and eliminating bottlenecks, properly adjusting and improving the current GridKa setup, etc.

At present, GridKa uses dCache as the storage system in frontend and TSM as the tape storage backend. dCache provides a plugin interface for exchanging data between dcache and tape.

TSS is a TSM-based client developed by the GridKa team. TSS has been in production for over 10 years. The interaction between the GridKa dCache instance and TSM is accomplished using additional scripts that can be further optimized to improve the overall performance of the tape storage.

This contribution provides detailed information on the results of various performance tests performed on the GridKa tape and significant improvements of our tape storage performance.

Consider for promotion

No

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