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## Storage management solutions and performance tests at INFN Tier-1

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Performance, reliability and scalability in data access are key issues when considered in the context of HEP data processing and analysis applications.

The importance of these topics is even larger when considering the quantity of data and the request load that a LHC data centers has to support.

In this paper we give the results and the technical details of a large scale validation, performance and comparison tests performed at CNAF.

The storage management solutions CASTOR, gpfs, xrootd and dcache have been tested on the CNAF production environment.

Our storage solution is based on Fibre Channel systems organized in a Storage Area Network where disk servers are interconnected to the farm via gigabit LAN: for these tests 24 disk servers (for a total of 220 TB of disk space) and about 260 worker nodes have been used.

The test aim was to evaluate both the sequential and random (reading and writing) access to the data in order to verify efficiency, availability and robustness of the different storage solutions.

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