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A scalable low-cost Petabyte scale storage for HEP using Lustre

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We describe a low-cost Petabyte scale Lustre filesystem deployed for High Energy Physics. The use of commodity storage arrays and bonded ethernet interconnects makes the array cost effective, whilst providing high bandwidth to the storage. The filesystem is a POSIX filesytem, presented to the Grid using the StoRM SRM. The system is highly modular. The building blocks

of the array, the Lustre Object Storage Servers (OSS) each have 12*2TB SATA disks configured as a RAID6 array, delivering 18TB of storage. The network bandwidth from the storage servers is designed to match that from the compute

servers within each module of 6 storage servers and 12 compute servers. The modules are connect together by a 10Gbit core network to provide balanced overall performance. We present benchmarks demonstrating the performance and scalability of the filesystem.

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