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GPFS AFM as a transparent cache for Ceph Object Storage

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At INFN-CNAF, an R&D activity based on the implementation of a transparent GPFS cache connected to Ceph Object Gateway has been carried out recently. The integration between GPFS and external object storage systems has been made possible by a new GPFS functionality called "Active File Management to Cloud Object Storage". In general, this solution consists in a GPFS fileset acting as a cache that provides end users with POSIX access to their data located anywhere in the cloud. In our (Tier1) use case we are investigating the possibility to reduce usage of proprietary software (GPFS) placing major part of experiments'data into object storage but keeping at the same time the possibility to provide POSIX access to this data.
A set of suitable tests has been executed in order to verify the level of reliability and performance provided by the integration between GPFS and Ceph Rados Gateway, yielding positive results.
Considering that IBM moved its licensing model from "socket" to "capacity" and that we expect significant growth of storage space usage in the next future, such an approach could help in saving important amount of funds just on software licenses.

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