A data caching model for Tier-2 WLCG computing centres using XCache

Monday 9 July 2018 14:15 (15 minutes)

The XCache (XRootD Proxy Cache) provides a disk-based caching proxy for data access via the XRootD protocol. This can be deployed at WLCG Tier-2 computing sites to provide a transparent cache service for the optimisation of data access, placement and replication.

We will describe the steps to enable full read/write operations to storage endpoints consistent with the distributed data management systems provided by LHC experiments using an example Tier-2 computing site (Edinburgh, UK). Performance studies will also be outlined to assess the benefits and limitations using the XCache service, leading to a generation of configuration templates and best practices for other grid computing sites to follow. We will also discuss how the XCache service can provide access to large regional storage pools for diskless or modest disk capacity sites as part of a regionally federated layout. The possibility of using a single XCache service for multiple VO support is also discussed.

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Session Classification: T4 - Data handling

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