

High-density Grid storage system optimization at ASGC

ASGC provides highly intensive data services for both WLCG Tier-1 (Taiwan-LCG2) and Tier-2 (TW-FTT) centre by CASTOR and DPM respectively, with more than 100 storage servers. In the first 14-TeV LHC year of 2010, ASGC has unprecedentedly handled over 5.8 PB of inbound data for ATLAS and CMS experiments, more data-intensive and higher performance Grid activities is expected. Optimizing capacity and storage efficiency in a complex storage architecture and limited space of datacenter would be a big challenging task. Based on detailed monitoring data from data service related systems, a new storage system with 480TB per rack, 192 TB per storage server equipped with 10 Gb interface was targeted. Both CASTOR and DPM services were optimized in the new storage systems. A new procured 2.3 PB storage could be handled by only 12 servers with more than 5GB I/O throughput in total. In this talk we will describe how ASGC deploys and optimizes the new high-density Grid storage system in the aspects of hardware, operating system, and applications.

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