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ALICE Tier2 Activities in KISTI

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The ALICE experiment, one of the four LHC experiments at CERN, is about studying the physics of strongly interacting matter at extreme energy densities, where the formation of a new phase of matter, the quark-gluon plasma, is expected. Several petabytes of data are expected to be produced from the ALICE detector annually. There are more than 1000 ALICE scientists around the world who want to work together to analyze the data. For this end, a hierarchically distributed computing model called ALICE Computing Grid has been developed and operated in production. Data from the ALICE experiment is distributed around the globe. According to the ALICE computing model, the data is supposed to distributed to six large computer centers called ALICE Tier-1 centers, with a primary backup stored on tape at CERN where the first-pass reconstruction takes place, and with a secondary backup distributed across the Tier-1 centers where subsequent reconstructions and scheduled analysis happen. There are also about more than 60 small and medium sized computer centers called ALICE Tier-2 centers around the world mainly designed for MC productions and end-user analysis. KISTI has been part of the ALICE distributed computing Grid as a Tier-2 since 2006, providing a production-level grid service for the ALICE computing Grid. The KISTI ALICE Tier2 Center has promised to offer 50 Terabytes of disk space and 600 HS of computing capacity annually to the ALICE Grid according to the WLCG MoU signed with CERN in 2007. We will give an updated report on ALICE Tier2 relating activities that have been around at KISTI last year including the total amount of CPU delivery for 2011.

As part of KISTI ALICE Tier-2 activities, we have been participating in the development of PROOF (Parallel ROOT Facility), which is developed to enable interactive parallel analysis on a local cluster. PROOF is adopted mainly by the ALICE community for faster data analysis with the expectation of resulting in much shorter turnaround time in data analysis cycle. We have developed a PROOF benchmark module called ProofBench that was successfully released as part of the ROOT v5.30/00 in June 2011. This talk will also update our work on the PROOF benchmark development in collaboration with CERN.

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Session Classification: Poster Session