

Public Resource Computing at CERN - LHC@home

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Public resource computing uses the computing power of personal computers that belong to the general public. LHC@home is a public-resource computing project based on the BOINC (Berkeley Open Interface for Network Computing) platform. BOINC is an open source software system, developed by the team behind SETI@home, that provides the infrastructure to operate a public-resource computing project and run scientific applications in a distributed way. In LHC@home, the first public-resource computing application has been SixTrack, which simulates particles circulating around the Large Hadron Collider (LHC) ring in order to study the long-term stability of the particle orbits. Other high-energy physics applications are being prepared for LHC@home. Currently the system has about 8000 active users, 12000 active hosts and provides about 3 TFlops sustained processing rate. Motivating users is a very important part of this kind of project, and therefore LHC@home provides an attractive screen saver and a credit based ranking system for the users. Benefits and limitations of the public resource computing approach are explained and the results obtained with LHC@home are presented.

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