



Contribution ID: 52

Type: **not specified**

## AUDITOR

*Tuesday 14 May 2024 17:00 (15 minutes)*

The increasing computational demand in High Energy Physics as well as increasing concerns about energy efficiency in high performance/throughput computing are driving forces in the search for more efficient ways to utilize available resources. Since avoiding idle resources is key in achieving high efficiency, an appropriate measure is sharing of idle resources of under-utilized sites with fully occupied sites. The software COBaLD/TARDIS can automatically, transparently and dynamically (dis)integrate such resources in an opportunistic manner.

However, resource sharing also requires accounting. This is done with AUDITOR (AccoUnting DatahandlIng Toolbox for Opportunistic Resources), a flexible and extensible accounting ecosystem that can cover a wide range of use cases and infrastructures. Accounting data is gathered via so-called collectors and stored in a database. So-called plugins can access the data and can act based on the accounting information.

An HTCondor collector, a Slurm collector and a TARDIS collector are currently available, and a Kubernetes collector is already being worked on.

The APEL plugin, for example, enables the creation of APEL accounting summaries and their transmission to the APEL accounting server. While the original goal of developing AUDITOR was to enable accounting for opportunistic resources managed by COBaLD/TARDIS, it can also be used for normal accounting of a WLCG computing resource. Because AUDITOR uses a highly flexible data structure to store accounting data, extensions such as accounting GPU resources can be added with minimal effort.

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**Session Classification:** WLCG