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Dynamic Computing Resource Extension using COBalD/TARDIS

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Cloud providers, HPC clusters, and free institute resources can dynamically increase computing power. In order to make theses so-called opportunistic resources transparently available, the services COBalD and TARDIS are developed in collaboration of the Institute of Experimental Particle Physics (ETP) and the Steinbuch Centre for Computing (SCC) at KIT.

The opportunistic resources are integrated into an overlay batch system (OBS), which acts as a single-point-ofentry for the users. Depending on the decisions of the OBS, COBalD/TARDIS adjust the resource allocation at the various resource providers. To supply the necessary software environment for the jobs, required by the scientific communities, virtualization and containerization technologies are used on the heterogeneous resources.

In this contribution, we introduce the general concept of COBalD/TARDIS, present current setups in the HEP context, and show an example application of outside HEP.

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