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GlideinBenchmark: collecting resource information to optimize provisioning

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Choosing the right resource can speedup jobs completion, better utilize the available hardware and visibly reduce costs, especially when renting computers on the cloud. This was demonstrated in earlier studies on HEPCloud. But the benchmarking of the resources proved to be a laborious and time-consuming process. This paper presents GlideinBenchmark, a new Web application leveraging the pilot infrastructure of GlideinWMS to benchmark resources, and shows how to use the data collected and published by GlideinBenchmark to automate the optimal selection of resources.

An experiment can select the benchmark or the set of benchmarks that most closely evaluate the performance of its workflows. With GlideinBenchmark and the help of the GldieinWMS Factory it controls the benchmark execution. Finally, a scheduler like HEPCloud's Decision Engine can use the results to optimize resource provisioning.

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