

ASCI course a14: Advanced Grid Programming Models

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KOALA Exercise

For the exercise on KOALA, we offer the following four versions.

1. Experiments with KOALA on the DAS3 with existing applications

Take any possibly dummy application of any type supported by one of the runners of KOALA (e.g., the CS, OM, or WF runner), create several workloads of a decent size of jobs running this application, submit these through KOALA to the DAS, and present detailed performance results such as waiting times and response times under different circumstances or with different parameter settings. Preferably use Grenchmark.

Write a report of not more than 6 pages to present your findings. The report should contain the following:

1. A description of the application of your choice and why you chose it.
2. A short description of the KOALA runner to be used for the application.
3. A description of the way you have generated the workloads and how you have submitted these, e.g., using Grenchmark, or a script.
4. Graphs of the results and the observations you have made.
5. Your overall experience in using KOALA on the DAS.

2. Experiments with KOALA on the DAS3 with your own applications

As version 1, but in this case, adapt an application of your choice to KOALA on the DAS3. The emphasis should here be more on the efforts for this adaptation rather than on the extensiveness of the experiments. Also, the performance study should be less on complete workloads, but more on single-application performance (e.g., runtimes). Write a report as in version 1, taking into account the differences with version 1.

3. Development of a GUI for KOALA

Currently, KOALA is command-line oriented. A GUI for KOALA to be written in Python would be a very welcome addition. The GUI should include online explanations of how to use it.

4. A proposal of your own choice

Propose your own assignment based on the material taught on day 3 of the course. The assignment should have a practical component and not only consist of paper work.

