BLUE WATERS

SUSTAINED PETASCALE COMPUTING

24 novembre 2010

Collaborations


GREAT LAKES CONSORTIUM
FOR PETASCALE COMPUTATION

Modeling

- Analysis checkpoint/restart Frederic Viven
  - Work to continue – no significant interaction needed
  - Expect for next meeting preliminary results on
  - Robustness of solutions
  - adaptive algorithms

- Memory Modeling - Jean francies Mehaut
  - Define an analytic model of cache and memory
  - Use for predicting memory impact on performance of P7 (multicore, SMT, caches).
  - next week have a discussion to coordinate with what Snavely is doing.

Modeling

- Load Balancing Charm++ - Pelegrini
  - Use of graph partitioners
  - Sebastien will work with UIUC here for a few days and then continue work in France. May have an month long visit in March.
  - Numa load balancing?

Modeling

- Topology aware scheduling, mapping and scheduling- Abhinav, Yves Robert?, Christian Perez
  - Perez: Possible visit of a PhD student. To decide in December
- Performance modeling - Kale group, Joseph Emeras
- Extending simulation framework for I/O

I/O

- Library for I/O offload on compute nodes – Antoniu
  - Continue work of Matthieu with view of integrating in existing I/O library (ies)
  - Targets: CM1, Enzo; Visit, PHDF5
  - Work at Rennes; visit of Matthieu in spring/ summer; involvement of Bogdan

I/O

- Tape archival – Matthias Jaquelin
  - Jason will provide info an tape characteristics in 4/11, for Mathias to finish current project
  - Mathias will send current simulator code, for Jason to evaluate
  - Mid Dec. have phone conference to decide if simulator is useful to NCSA for studying HPSS management policies.

I/O

- Possible new project: Event driven simulator to study Loadleveler/GPFS/HPSS interactions and evaluate caching and scheduling policies
  - Discussion mid December (with Yves Robert)
  - NCSA to create I/O profiles of main applications

BW Observatory

- Prepare, for Grenoble, a white paper on information (traces) that will be collected and made available by NCSA on BW in support of research (resilience, scheduling, I/O, etc.)
- NCSA to prepare short document outlining information to can be captured and access policies
- INRIA partners to provide “requests”
- Iterate (Jan/March/May)