



IHEPCCC/HEPiX benchmarking WG

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History (1)

- Autumn 2006: IHEPCCC chair contacts HEPiX conveners about help on two technical topics
 - File systems
 - (CPU) Benchmarking
- HEPiX meeting at Jefferson Lab (Oct 2006) reacted favourably
- Participation sorted out
 - Chairs: Maslennikov (CASPUR): File systems, HM (CERN): Benchmarking
- File system WG started immediately... not so the Benchmarking WG
 - Mea culpa... and my apologies to everyone



History (2)

- Ad-hoc discussion at HEPiX at DESY (April 2007)
- HEPiX in St Louis (November 2007)
 - Benchmarking track
 - INFN move to SI2006 (Michele Michelotto)
 - Update on GridKA benchmarking (Manfred Alef)
 - Topics around CERN benchmarking (HM)
 - AMD and Intel performance for lattice QCD codes (Don Holmgren)
 - 2 more formal face-to-face meetings of people interested in benchmarking, formal start of WG
- One phone conference since (30-Nov), next one scheduled for 13-Dec



WG composition

- Currently on mailing list:
 - Ian Gable (U Victoria)
 - Alex Iribarren (CERN)
 - Helge Meinhard (CERN)
 - Michael Barnes (Jefferson Lab)
 - Sandy Philpott (Jefferson Lab)
 - Manfred Aef (GridKA)
 - Michele Michelotto (INFN Padova)
 - Martin Bly (RAL)
 - Peter Wegner (DESY)
- Actively looking for participation from FNAL and SLAC
- More expressions of interest to collaborate very welcome



WG plans

- Focus initially on benchmarking of processing power for worker nodes
- People who can spare a machine temporarily will announce this to the list
 - Standard set of benchmarks to be run
- Seek collaboration of experiments
 - Check how well experiments' code scales with industry-standard benchmarks
- Fix environment
 - SL 4 x86_64, 32-bit applications
 - Some cross-checks with SL 5
 - Gcc 3.4.x, compilation options by LHC architects' forum
 - Check whether other communities (CDF/D0, BaBar, ...) prefer different options
 - Will need gcc 4 for SPEC FP 2006
 - Multi-threaded benchmarks vs. multiple independent runs



Personal observations

- Trying to get out of SI2k
 - No longer supported, no new results on spec.org, too
 - Memory footprint too small
- Strong interest to follow an industry-standard benchmark
 - SPEC CPU 2006 is a strong candidate
 - ... applying our own environment
- Strong interest to cross-check with experiment code
- A lot of interest to consider power consumption as well



Conclusions

- WG has taken long to get started, but is now up and running
- Momentum is there, interest and (some) person power as well
- Needs a bit of focussing in order to ensure results are comparable
- Interim report expected at HEPiX at CERN May 2008