

Benchmarking Changes

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SA1 Face to Face

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- EGEE has used SpecInt2000 as a measure of its sites capacity and as a normalisation for cpu accounting
- Now out of date. SPEC has released a set of 2006 benchmarks, manufacturers no longer publish SI2K results,
- SI2K is no longer a good indicator of the performance of HEP applications
- HEPiX Working Group tasked with finding a replacement.
- http://hepixon.caspr.it/afs/hepixon.org/project/ptrack/#SPEC_CPU2006
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- The HEPiX WG evaluated a variety of HEP codes and different cpus
- They chose one of the SPEC2006 set of benchmarks called SPECint_rate_base2000
- This reflected the mix of Int and FP found in HEP applications and scaled with cpu speed.
- This is not one of those usually published by manufacturers
 - So sites have to run it themselves. (A Good Thing!)
- Conversion
- 1 HEPSPEC06 = 250 SpecInt2000
- 4 HEPSPEC06 = 1k SpecInt2000

- **1. WLCG MoU Pledges will be scaled as above**
- **2. Installed Capacity should be measured using HESPEC06**
- **3. Accounting records usage in HEPSPC06**

- **APEL centrally stores the raw cpu used by jobs and a value normalised to the *GlueHostBenchMarkSI00* value published in Glue.**
- **GLUE 2.0 allows multiple benchmarks**
 - But not yet deployed
- **Not everyone will change the benchmark they use at once.**
- **Changing the infrastructure to store multiple values only for a migration is not justified.**

- **Sites should:**
 - 1. Measure resources using HEPSPEC06**
 - 2. *250**
 - 3. Publish as SI00 as before**
 - 4. Set Glue Flag to say HEPSPEC06 has been used**

- **APEL gathers comparable data from all sites**
- **Monitoring can identify sites which have/have not changed benchmark. Raise tickets etc**
- **CESGA Portal can show usage in either (both?) benchmarks by conversion.**
- **Eventually when most sites have changed, the portal default will change**
- **When GLUE2.0 deployed, publish raw HEPSPEC06 values**
 - Or possibly reuse SI00

- WLCG is currently (feb 2009) in a state of transition with respect to the units of core power measurement. For sites whose MEASUREMENTS are still based on the old SpectInt2000 suite, the measured power must be published only via the GlueHostBenchMarkSI00 attribute. For sites whose core power MEASUREMENTS are done using the new HEP-SPEC06 benchmark, the result of this measurement must be PUBLISHED via the attribute *GlueHostProcessorOtherDescription: Benchmark=<value>-HEP-SPEC06*, where in <value> the CPU power is expressed in the new unit. In addition, this HEP-SPEC06 measurement must be CONVERTED (via the agreed conversion factor) to SpectInt2000 units, and this resulting value must be PUBLISHED via the the GlueHostBenchmarkSI00 attribute.
- https://twiki.cern.ch/twiki/pub/LCG/WLCGCommonComputingReadinessChallenges/WLCG_GlueSchemaUsage-1.8.pdf

- **License the SPEC2006 benchmark suite**
- **Run HEP SPEC06 on your cpus**
 - Details on HEPiX web.
- **Publish values according to Installed Capacity document.**