Revised Capacity Plans

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Introduction

- The Why and What of the Revised Capacity Plans have been presented already several times to different boards of WLCG.
  - The CB was not amongst them and I will start with a short summary of why we have this revision and what the current plans are.
- Besides, I will point you to the pages on the LCG web, where you will find further information.
- Most of these links are under this URL: http://lcg.web.cern.ch/LCG/planning/planning.html

Why this Revision?

- The original capacity plans were based on the Computing TDRs of the experiments.
  - Written in spring 2005 and assuming a start-up schedule of LHC which was known to be unrealistic one year later.
- In July 2006 new estimates for physics beam time, energy and luminosity over 2007 – 2010 have been agreed: http://lcg.web.cern.ch/LCG/MB/revised_resources/startup%20scenario.pdf
- In October 2006 the experiments published new requirements: http://lcg.web.cern.ch/LCG/MB/revised_resources/default.htm
- At the October Computing Resources Review Board it was decided that based on these new requirements new capacity plans should be created for the April 2007 C-RRB in discussions between Funding Agencies, WLCG Sites and Experiments.

Where are we now?

- Comparing the current planned pledges of computing capacity with the revised requirements; details under:
  http://indico.cern.ch/getFile.py/access?contribId=19&sessionId=2&resId=0&materialId=0&confId=5386
  we find that:
  - The overall sum of the pledges satisfies the requirements until 2009.
  - But the distribution over the years, over the type of equipment and over the experiments does not fit the revised needs.
- Adjusting the time profile of the pledges will have to be done carefully to avoid any reduction in the planned overall budget levels.
- Getting the distribution of pledged capacity over the experiments closer to the needs will be even more delicate.
- I propose to leave these two issues to the discussions mentioned above.
  - Please invest enough energy and good will into them to get positive results before the next C-RRB!!!

How Much to Buy of What?

- The computing models of the experiments assume that pledged capacity at the Tier-2 sites comes with a certain relation of disk storage to CPU capacity.
- If this is not the case, their software will run inefficiently, trying to get at data over the external network.
  - In some cases pledged CPU will hardly be usable by the experiment for which it was intended.
- This seems to be a solvable problem!
  - The concerned sites will not have to spend more money.
  - Just to buy typically less CPU and more disk keeping to the same overall budget.
    - But there are also cases where too much disk is offered.

CPU to Disk Relations

- The requirements of the experiments for Tier-2s are (TB/kSI2k):
  - ALICE 0.40
  - ATLAS 0.44 (for 2008, varies a bit over years)
  - CMS 0.22
  - LHCb 0
- The relation of the 2008 non-LHCb pledges varies between 0.03 and 1.0
  - Taken from the 2008 Tier-2 pledges in the Megatable: http://lcg.web.cern.ch/LCG/planning/planning.html
  - First link under: Technical Design Reports and Experiment Resource Requirements
- I propose that all sites make a strong effort to sort this out!
- Let's discuss this.