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# LHCC Review of the Computing Technical Design Reports

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Computing Resources Review Board

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# LHCC Review of the Computing TDRs

7-8 October 2005

- Mandate
    - To review the five TDRs (ALICE, ATLAS, CMS, LHCb, LCG) with emphasis on the computing models, resource requirements, manpower, milestones and management.
  - Review Committee Membership
    - Chair: P. McBride
    - Representatives from the LHCC: S. Bertolucci, K. Borras, F. Forti, S. de Jong, M. Martinez-Perez, V. Kekelidze, B. Peyaud
    - External:
      - D. Boutigny (Annecy)
      - T. Haas (DESY)
      - C. Bozzi (INFN Ferrara)
      - A. Campbell (DESY)
  - The review process is still ongoing and its final report will be available for the November 2005 LHCC session.
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# General Comments

- The Service Challenges (SCs) form the backbone of conditioning plans for the WLCG.
    - SC-3 is underway but is one month behind schedule and much work remains to be done.
  - All experiments have included a CERN Analysis Facility in their computing models.
    - This facility will be important for calibration & alignment and for early user analysis.
    - Strong management of the systems will be required.
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# Preliminary Observations

- The TDRs contain reasonable conceptual designs of the computing systems.
    - These models remain essentially untested.
      - This is particularly a problem for distributed analysis models.
    - Tier 0 planning is the most advanced.
    - Much will be known by September 2006 as many system tests, including tests of large-scale distributed analysis, are planned.
  - The Review Committee urges the computing management to proceed with caution and to re-evaluate the resource planning regularly so that most computing resources are purchased only when needed.
    - Need to proceed with planned purchases in 2006 so that infrastructure is put in place and large-scale system tests can advance.
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# Preliminary Observations

- The Review Committee supports the first steps of the transition of the LCG towards a global LHC “computing centre”.
  - Balance amongst the experiments for resources outside of CERN will be difficult to achieve. An estimate of the missing resources for each experiment has been made.
    - ALICE is missing ~50% of required resources (CPU, disks, tapes)
    - ATLAS and CMS
      - The LHCC does not see any significant difference in the fundamental computing needs between ATLAS and CMS.
        - The differences in their requests depend mainly on the details of the computing model in the use of disk versus tape.
        - This is a concern and must be resolved.
  - A plan is needed to support the computing and software infrastructure after the funding for EGEE and other GRIDs comes to an end. This should be included in the MoU process.
  - Planning for computing needs to be linked more strongly to the physics needs of the experiments.
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