

Annex 3. Minimal Computing Resource and Service Levels to qualify for membership of the WLCG Collaboration

This Annex describes the qualitative aspects of the Computing Resource and Service Levels to be provided by the Host Laboratory (CERN), Tier1 Centres and Tier2 Centres in order to fulfil their obligations as Parties to this MoU. Also described are the qualitative aspects of Grid Operations Services. The quantitative aspects of all of these services are described for each Party in Annex 6. Only the fundamental aspects of Computing Resource and Service Levels are defined here. Detailed service definitions with key metrics will be elaborated and maintained by the operational boards of the WLCG Collaboration. All centres shall provide & support the Grid services, and associated software, as requested by the experiments and agreed by the WLCG Collaboration. A centre may also support additional Grid services as requested by an experiment but is not obliged to do so.

Annex 3.1. Host Laboratory Services

The Host Laboratory shall supply the following services in support of the offline computing systems of all of the LHC Experiments according to their computing models.

- i. Operation of the Tier0 facility providing:
 1. high bandwidth network connectivity from the experimental area to the offline computing facility (the networking within the experimental area shall be the responsibility of each Experiment);
 2. recording and permanent storage in a mass storage system of one copy of the raw data maintained throughout the lifetime of the Experiment;
 3. distribution of an agreed share of the raw data to each Tier1 Centre, in-line with data acquisition;
 4. first pass calibration and alignment processing, including sufficient buffer storage of the associated calibration samples for up to 24 hours;
 5. event reconstruction according to policies agreed with the Experiments and approved by the C-RRB (in the case of pp data, in-line with the data acquisition);
 6. storage of the reconstructed data on disk and in a mass storage system;
 7. distribution of an agreed share of the reconstructed data to each Tier1 Centre;
 8. services for the storage and distribution of current versions of data that are central to the offline operation of the Experiments, according to policies to be agreed with the Experiments.
- ii. Operation of a high performance, data-intensive analysis facility with the functionality of a combined Tier1 and Tier2 Centre, except that it does not offer permanent storage of back-up copies of raw data. In particular, its services include: