

# Memorandum of Understanding for the Formation of NorthGrid, a regional Tier-2 Grid Computing Facility

Version 2 July 2004

In this memorandum of understanding (“Memorandum of Understanding”):

- “The Grid” means the UK Grid for Particle Physics as defined by the GridPP Project.
- “LHC” mean the Large Hadron Collider at CERN.
- “LCG” means the LHC Computing Grid.
- “EGEE” means the EU FP6 Enabling Grids for e-Science in Europe Project.
- “VO” means Virtual Organisation, an abstract entity grouping Users, Institutions and Resources (if any) in the same administrative domain, e.g. a particle physics collaboration.
- “GridPP” means a PPARC-funded collaboration of institutes charged with delivering a computing and data Grid for particle physics in the UK.
- “Tier-2” means a Grid-enabled computing facility formed by Universities and other institutes that provides resources to GridPP, Each Tier-2 is represented in GridPP by its Chair and Technical Co-ordinator at a Tier-2 Board, whose decisions require unanimity.
- “Target Shares” means the minimum share of a particular resource to be made available via the Grid to an approved VO in a specified time frame.

- 1.1. The purpose of this Memorandum of Understanding is to record the principal rights and obligations of the Parties with regard to the arrangements for the support and use of the resources at the Tier-2s by GridPP.
- 1.2. The Parties acknowledge that the terms of this Memorandum of Understanding may be varied by unanimous written agreement only.
- 1.3. This Memorandum of Understanding shall enter into force at the date of the last signature of all the parties and shall, subject continue in force until 31 August 2007.

The undersigned parties agree to the following terms and conditions that will constitute a Tier-2 Computing Facility, NorthGrid. The initial purpose of this facility is to allow participation in the LHC Computing Grid project (LCG) and its world-wide

computational grid for particle physics. However, the NorthGrid facility could be open to usage by other parties, subject to acceptable usage agreements.

The NorthGrid members will agree to specify an access level to hardware and storage resources for the period of funding of GRIDPP2. They will make best endeavour to meet the resource estimates used to determine the overall resource commitments from NorthGrid to GridPP as specified in the relevant Memorandum of Understanding, subject to suitable manpower availability and operational constraints. Each NorthGrid member will ratify this access level as allocated by the NorthGrid board.

All sites agree to respect a common access policy for the donated resources, as agreed by the NorthGrid Management board. The security policies and software distributions decided by GridPP must be implemented on each subscribing site, and hardware purchases should follow GridPP guidance where practical. NorthGrid also undertakes to report to the GridPP the target quotas for each HEP user group for the following quarter.

The management board will bid collectively for staffing to run the hardware facilities. The broad allocation to the institutions should reflect the resources (kSpecInts of CPU, Grid-accessible GB of storage) input to the project (as made available to GridPP in the case of staff from that source), with adjustments to reflect the irreducible minimum staff requirements for any facility. The NorthGrid board will agree the sharing of GridPP- and EGEE-funded hardware support manpower between the institutes.

The NorthGrid management board will be constituted as follows:

- One representative from each of the contributing institutions, usually a representative from the High Energy Physics Groups.
- One representative of each of the other stakeholders contributing more than 10% in cost terms to the Facility
- The NorthGrid technical co-ordinator, non-voting and in attendance.

The management board will elect a chair by simple majority of the full members. In the case of tied voting, the chair will seek compromise solutions, and failing that, apply a weighting to the votes based on the available resource contribution to the facility. Only in the case of a failure of these approaches will the Chair exercise a casting vote.

The technical board will be comprised of one system manager from each contributing site. Other members may be invited to be in attendance as circumstances dictate. This board will make technical recommendations to the management board, and be Chaired by the Technical Co-ordinator. Reporting on allocated staff posts and resource usage should be through the technical board Chair to the management board.

The institution representatives are charged with soliciting the opinion of their local security management to proposed access policies. In matters relating to site security, an institution has the right of veto over an access policy that would violate the site policy. Such a veto should be transmitted via the NorthGrid chair to GridPP. However, there is an obligation on all contributing institutions to seek all possible flexibility to accept access policies agreed by majority voting on the board.

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