



Grid Deployment Board - GDB

Summary of the first Tier 0/1 Network
Meeting Held January 20/21 2005

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Motivation

- LCG Planning requires that the planning for the external connectivity is made explicit.
 - How do we get from here to there!
- Some things are still unclear and its important that everyone is on the same page.
 - Need to fully understand "who pays for what"
- Much activity in the networking arena now needs to consolidate into a "network" for LHC. Such a network needs coordination to happen.
 - Agreements on the technical infrastructure
 - Configuration
 - Monitoring
 - Operation
 - Agreements on "who provides what"





Purpose of the Meeting

- There are a number of high-level goals that are desirable outcomes from the meeting. We may not achieve everything!!
- Information
 - To “level set” everyone to the same level of understanding concerning the network expectations, current state and issues for the LHC.
- Planning
 - To gather input for the LCG technical design report and provide a common understanding of how the network for LHC computing (2007-2008) could be realistically implemented.
 - To gather input in the network evolution foreseen so that the planning for the “Service Challenges” that are in progress so that planning towards LHC startup can be completed.
- To decide what form this “standing body” should take and how often it should meet.





Timetable

- Create a few small groups to work on specific topics
 - First round by end-feb and distribute
 - Organise another full meeting in March to discuss the results
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- Web site: <http://lcg.web.cern.ch/LCG/PEB/gdb/nw-grp.htm>





Some highlights

- 10Gbit to each Tier-1 from CERN T0 is a fundamental requirement.
- Good T1-T1 and T1-T2 connectivity is also required which is an issue for the T1's
- List of agreed T2 sites is needed
- Important to get some planning as activities ramp up towards LHC startup.
 - A target date for each Tier-1 for a 10Gb/sec production circuit to CERN (T0-T1)
 - Needed to set expectations for the service challenges.
 - These need to be operated as "production" circuits.
 - A network vision for LHC
 - High level architectural view
 - Europe, US, Asia,
 - GEANT dependable network services
 - Network domains for all T1 sites
 - Campus connectivity (e.g. storage)
 - Management considerations
 - SLA's
 - Operations (monitoring and intervention)
 - Cost Models
 - Technical considerations
 - Security
 - Switching and Routing considerations
 - IP addressing
 - Backup paths
 - Infrastructure and exploitation
 - Data movers and Protocol stacks
 - On demand use





Conclusions & Actions

- Create a summary of the experiment requirements
 - J. Shiers is maintaining the requirements summary as part of the service challenge activity,
- Create a planning document of anticipated end-end connectivity, by when, from T1's to CERN.
 - Dante will provide the information for all european T1's
 - For non-european T1's the individual centers will be contacted.
- Create a network architecture document for the LHC network.
 - Coordinated by Erik-Jan Bos of Surfnet, the intention is to start with a high level overview before starting to study all the detailed issues.
 - A preliminary overview of the IP routing issues has been prepared by CERN.

