



## Discussion on LCG Tier-1 availability metrics

**Fabio Hernandez**  
fabio@in2p3.fr

LCG Management Board, July 18th, 2006



- SAME

- [http://lcg-sam.cern.ch:8080/sqlldb/site\\_avail.xsql](http://lcg-sam.cern.ch:8080/sqlldb/site_avail.xsql)
- Selected site's services are tested at regular intervals (currently 1 hour)
  - *Site BDII, CEs, SEs, SRM SEs*
- Categorization of the results of those tests
  - *OK, DEGRADED, DOWN*
  - *Applying some logic, these values are translated to 1 (OK) or 0 (DOWN) for every service*
- Integration of the results over time
- Scheduled downtime not taken into account
- Nodes registered in the GOC DB are probed, even if they are flagged as not-to-be-monitored (by SFTs)

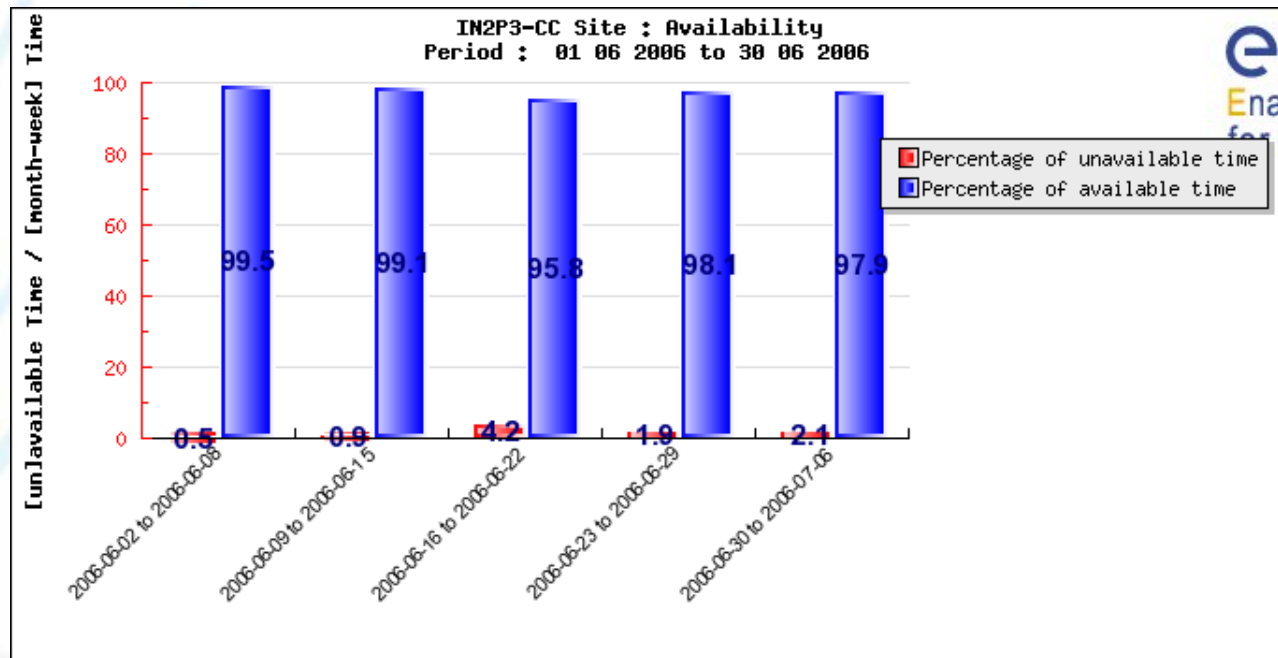


- LCG MoU (as of June 1st 2006)
  - <http://lcg.web.cern.ch/LCG/C-RRB/MoU/WLCGMoU.pdf>
  - Definition of Availability (footnote page 6)
    - *(time running)/(scheduled up-time)*
- « Scheduling of Service Interruptions at WLCG Sites »
  - June 2006
  - Jamie's document
  - Conventions
    - *Announce the interruptions through the CIC portal and store information in the GOC*
    - *Interruption  $\leq 4$  hours: announce 1 working day in advance*
    - *4 < Interruption  $\leq 12$  hours: announce at the operations meeting*
    - *Interruption > 12 hours: announce one week in advance*

- Jamie's document (cont.)
  - *« All interruptions that do not follow this procedure shall be deemed to be unscheduled and shall be thus accounted in the corresponding Site Availability reports. »*
- CIC portal: Operations Metrics section
  - <http://cic.in2p3.fr> -> CIC Staff -> Operations Metrics -> Site View

- CIC portal (cont.)

- Example: IN2P3 site availability according to SFT results in June 2006
- Does not include periods of scheduled down time



- John Gordon's proposal with contribution by Tony Cass: 2 metrics
  - **Availability**
    - *total fraction of time that a service is available*
    - *does not take into account periods of scheduled downtime*
    - *this is what is measured via SAME*
  - **Reliability**
    - *the fraction of time that a service is actually up when it is supposed to be up*
    - *excludes periods of scheduled downtime*
    - *other metrics in this category: Mean Time Between Failures and number of episodes*
    - *this is (roughly) what is published via the CIC portal*

- Use one tool for computing these metrics
  - In a consistent way with respect to SFT results
  - Making the results available via the CIC portal
- Tools for announcing scheduled downtime must enforce Jamie's proposed convention (if agreed)
- Sites need also a tool for announcing **unscheduled** downtime
  - Cooling problems, network outages, ...