Les Robertson
26 November 2007

Definition of Availability and Reliability terms used

Are in the WLCG MoU and Site Availability Metrics

This note has been written to explain the different usage of the term *availability* in the WLCG MoU and the Site Availability Metrics.

The WLCG Memorandum of Understanding defines availability targets for CERN (Annex 3.1), Tier-1s (Annex 3.2) and Tier-2s (Annex 3.3) as follows:

$$availability = time\_running \, / \, scheduled\_up\_time$$

The site availability metrics are calculated by the *Site Availability Monitor*, which runs a range of different tests at regular intervals throughout the day. A site is considered to be *available* if a defined set of critical tests complete successfully. The daily averages are calculated for each site and reported monthly to the WLCG management. These metrics distinguish between *availability* and *reliability*, with the following definitions:

$$availability = time\_site\_is\_available \, / \, total\_time$$

$$reliability = time\_site\_is\_available \, / \, \{total\_time - time\_site\_is\_scheduled\_down\}$$

The Management Board considers that reporting both of these measures is necessary, and has selected a terminology that follows the normal meanings of the two terms. This has the unfortunate consequence that the term *availability* used in the MoU refers to the *reliability* metric.