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Logging and Bookkeeping and Job Provenance services

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Logging and Bookkeeping (LB) service is responsible for keeping track of jobs within a complex Grid environment. Without such a service, users are unable to find out what happened with their lost jobs and Grid administrators are not able to improve the infrastructure. The LB service developed within the EGEE project provides a distributed scalable solution able to deal with hundreds thousands of jobs on large Grids. However, to provide the necessary scalability and not to slow down the processing of jobs within a middleware, it is based on a non-blocking asynchronous model. This means that the order of events sent to LB by individual parts of the middleware (user interface, scheduler, computing element, …) is not guaranteed. While dealing with such out of order events, the LB may provide information that looks inconsistent with the knowledge user has from some other source (e.g. he got independent notification about the job state). The lecture will reveal LB internal design and we will discuss how the LB results (i.e. the job state) should be interpreted. While LB is dealing with active jobs only, Job Provenance (JP) is designed to store indefinitely information about all jobs that run on a Grid. All the relevant information needed to re-submit the job in the same environment is stored, including computing environment specification. Users can annotate stored records, providing yet another metadata layer useful e.g. for job grouping and data mining over the JP. We will provide basic information about the JP and its use, looking for a feedback for its improvement.

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