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DGAS and HLRmon implementation of a Storage Accounting System

Distributed Grid Accounting System (DGAS) is a distributed tool for the implementation of national Grid accounting infrastructures. It is responsible for collecting and storing usage records (URs) for computing and storage. Sensors are installed on the Computing Elements (CEs) to collect computing accounting information and convert them into URs. Storage accounting's URs are generated by dedicated sensors and sent to a Home Location Register (HLR) server, a repository that persistently stores URs for future processing. HLRmon is the web portal that enables the visualization of the accounting information collected by DGAS.

This poster describes the architecture and the implementation of the new storage accounting system that exploits both DGAS and HLRmon. The UR schema is designed in a way that allows a per file accounting. The current implementation generates the URs by retrieving accounting data from the Information System with a dedicated script that is run once a day. The script collects data for all the Italian sites and then are sent to a test HLR. The architecture is designed in way that permits the development of specific sensors that can retrieve more accurate information directly from the Storage Element (SE). An HLRmon development instance is used to query the HLR for the storage accounting URs. It processes them and stores a set of records suitable for the reports on its internal database. HLRmon aggregates data per site, SE and Storage Area (SA). For each aggregation type and for the interval of time desired, a set of charts with the temporal trend is produced. The same information can also be accessed in a tabular form. In order to have a comparison between the used and available space, HLRmon retrieves information about the total and free space for each SE and SA directly from the Information System and plot these information against the used space for each site, SE and SA.

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