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Optimizing bulk data transfers using network measurements: a practical case.

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The quality of the connectivity provided by the network infrastructure of a Grid is
a crucial factor to guarantee the accessibility of Grid services, schedulate effciently processing and data transfer activity on the Grid and meet QoS expectations. Yet most Grid application do not take into consideration the expected performance of the network resources they plan to use. In this paper we describe the effective use of a Grid Monitoring framework, whose measurements are used to introduce netwrok aware features in a legacy application.
We use, a network monitoring framework oriented to Grid infrastructures to measures a small set of network parameters. The tesbed deployment covers
a Metropolitan Grid infrastructure, aimed at supporting a data intensive eScience application like HEP. We describe a real use case consisting of bulk data trasfers during the operation of the Grid for the SCoPE project.

Presentation type (oral | poster)

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Summary

The quality of the connectivity provided by the network infrastructure of a Grid is a crucial factor to guarantee the accessibility of Grid services, schedule efficiently processing and data transfer activity on the Grid and meet QoS expectations. Yet most Grid application do not take into consideration the expected performance of the network resources they plan to use. The research activity, use cases are divided in two groups: path-oriented and knowledge-based regards. As regarding the knowledge-based strategy In this work we study the possible improvements that we can obtain from an effective use of a Network Monitoring framework, whose measurements are used to introduce network aware features in a legacy applications.
Starting by the information carried out from a network monitoring framework Grid oriented, that measures a small (although possibly extensible) set of network parameters. Such framework works off the shelf with minimal administrative effort, is reliable, and has a negligible impact on system operation. The deployment covers the Metropolitan Grid infrastructure of the SCoPE Project, aimed at supporting a data intensive eScience application.
We have created a new tools for bulk data trasfers during the operation of the Grid within the SCoPE project, that take in account the network measurements.

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