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Application of TRIE data structure and corresponding associative algorithms for process optimization in GRID environment

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GRID model became widely used last years, arranging lots of computational resources in different environments, revealing problems of Big Data and horizontally scalable multiuser systems. In this paper there is an analysis of TRIE data structure and its application in contemporary GRID-related technologies, including routing (L3 OSI) and specialized key-value storages engine implementation (L7 OSI). The main goal is to show how TRIE mechanisms can influence operation of GRID environment, delivery process of the resources and corresponding services. The article describes how mechanisms of associative memory implemented by TRIE can dramatically reduce the level of latency in various GRID sub-systems at different layers of abstraction.

This analysis covers base algorithms, technologies review and experimental data gathering, which represents basis for conclusions and decision taking.

Download abstract in .docx file format at Google Drive: <https://drive.google.com/file/d/0ByqW7uAnBOBYQ2JHUUE0MTdYeIE/view>

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