

RAVEN - a Random Access, Visualisation and Exploration Network for the Analysis of Petabyte Sized Data Sets

The analysis and visualisation of the LHC data is a good example of human interaction with petabytes of inhomogenous data. A proposal is presented, addressing both physics analysis and information technology, to develop a novel distributed analysis infrastructure which is scalable to allow real time random access to and interaction with peta-bytes of data. The proposed hardware basis is a network of intelligent "CSR"-units, which combine Computing, data Storage and Routing functionalities. At the software level the project would develop efficient protocols for broadcasting information, data distribution and information collection upon such a network, together with a middleware layer for data processing, client applications for data visualisation and an interface for the management of the system.

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Track Classification: Computing Technology for Physics Research