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## Statistical analysis of virtualization performance in high energy physics software

Cloud Computing is emerging today as the new approach followed by computing centres, since the flexibility the Cloud provides is a powerful component to manage their resources. Through the use of virtualization, cloud promise to address with the same shared set of physical resources a large user base with different needs. However, virtualization may induce significant performance penalties for the demanding scientific computing workloads. This work presents an evaluation of the usefulness of the current cloud computing services for scientific applications. The performance of a sample of High Energy Physics (HEP) software running in a Kernel-based Virtual Machine (KVM) under different set-ups is analysed with the use of a multivariate analysis of variance (MANOVA). While clouds are still changing, our results indicate that the current cloud services have to take into account the different setups of Cores and Memory in order to get reasonable performances in HEP-Software.

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