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Distributed Root analysis on an ARM cluster

An ARM cluster, CEPH, ROOT and the energy balance

The total cost of ownershipt (TCO) of todays computer centres are increasingly driven the power consumption of computing equipment. The question arises if Intel based CPUs are still the best choice for analysis tasks. Furthermore, data-driven computing models are emerging.

This contribution compares performance, TCO, power and energy consumption of an ARM based CEPH cluster with off the shelf computers and an average GridKa compute node. The ARM cluster was constructed from 16 CubieBoards that comprise a dual Core ARM-A7 CPU at 1GHz as well as a SATA controller.

As analysis use case of this comparison we chose a simple high-energy di-muon events simulated for LHC.

The goal is to assess which configuration is better suited for future analysis hardware.

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