

# Benchmarking High Performance Computing Architectures with CMS' Skeleton Framework

*Monday, 10 October 2016 12:15 (15 minutes)*

In 2012 CMS evaluated which underlying concurrency technology would be the best to use for its multi-threaded framework. The available technologies were evaluated on the high throughput computing systems dominating the resources in use at that time. A skeleton framework benchmarking suite that emulates the tasks performed within a CMSSW application was used to select Intel's Thread Building Block library, based on the measured overheads in both memory and CPU on the different technologies benchmarked. In 2016 CMS will get access to high performance computing resources that use new many core architectures; machines such as Cori Phase 1&2, Theta, Mira. Because of this we have revived the 2012 benchmark to test it's performance and conclusions on these new architectures. This talk will discuss the results of this exercise.

## **Tertiary Keyword (Optional)**

Parallelization

## **Secondary Keyword (Optional)**

High performance computing

## **Primary Keyword (Mandatory)**

Data processing workflows and frameworks/pipelines

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