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Monitoring CMS experiment data and infrastructure for next generation of LHC run

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As CMS starts the Run 3 data taking, the experiment's data management software tools along with the monitoring infrastructure have undergone significant upgrades to cope up with the conditions expected in the coming years. The challenges of an efficient, real-time monitoring for the performance of the computing infrastructure or for data distribution are being met using state-of-the-art technologies that are continuously evolving. In this talk, we describe how we set up monitoring pipelines based on a combination of technologies, such as Kubernetes, Spark/Hadoop and other open-source software stacks. We show how the choice of these components is critical for this new generation of services and infrastructure for CMS data management and monitoring. We also discuss how some of the developed monitoring services such as data management monitoring, CPU efficiency monitoring, data-set access and transfers metrics, have been instrumental for taking strategic decisions and increasing the physics harvest through maximal utilization of computing resources available to us.

Significance

References

Experiment context, if any

CMS

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