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The CMS Tier-0 goes Cloud and Grid for LHC Run 2

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In 2015, CMS will embark on a new era of collecting LHC collisions at unprecedented rates and complexity. This will put a tremendous stress on our computing systems. Prompt Processing of the raw data by the Tier-0 infrastructure will no longer be constrained to CERN alone due to the significantly increased resource requirements. In LHC Run 2, we will need to operate it as a distributed system utilizing both the CERN Cloud-based Agile Infrastructure and a significant fraction of the CMS Tier-1 Grid resources. In another big change for LHC Run 2, we will process all data using the multi-threaded framework to deal with the increased event complexity and to ensure efficient use of the resources. This contribution will cover the evolution of the Tier-0 infrastructure and present scale testing results and experiences from the first data taking in 2015.

Primary author: HUFNAGEL, Dirk (Fermi National Accelerator Lab. (US))

Co-authors: TIRADANI, Anthony (Fermilab); CONTRERAS, Luis (Fermi National Accelerator Lab. (US)); GUTSCHE, Oliver (Fermi National Accelerator Lab. (US))

Presenter: HUFNAGEL, Dirk (Fermi National Accelerator Lab. (US))

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