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Usage of the CMS Higher Level Trigger Farm as a Cloud Resource

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The Higher Level Trigger (HLT) farm in CMS is a more than ten thousand core processor farm that is heavily used during data acquisition and largely unused when the detector is off. In this presentation we will cover the work done in CMS to utilize this large processing resource with cloud resource provisioning techniques. This resource when configured with Open Stack and Agile Infrastructure techniques virtualization and resource provisions has many similar attributes to large scale commercial clouds, but without the cost per core so it provides a unique resource to test. When the facility moves to production it will also represent a large increase in the production capacity available to CMS. We will cover the work on resource provisioning through the EC2 interface using the CMS pilot submission infrastructure, glide-in WMS; the configuration and contextualization of the virtual machines; and the configuration of the local environment and the execution of CMS reprocessing workflows.

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