

# Frameworks to monitor and predict resource usage in the ATLAS High Level Trigger

*Monday, 10 October 2016 15:30 (15 minutes)*

The ATLAS High Level Trigger Farm consists of around 30,000 CPU cores which filter events at up to 100 kHz input rate.

A costing framework is built into the high level trigger, this enables detailed monitoring of the system and allows for data-driven predictions to be made

utilising specialist datasets. This talk will present an overview of how ATLAS collects in-situ monitoring data on both CPU usage and dataflow

over the data-acquisition network during the trigger execution, and how these data are processed to yield both low level monitoring of individual

selection-algorithms and high level data on the overall performance of the farm. For development and prediction purposes, ATLAS uses a special

'Enhanced Bias' event selection. This mechanism will be explained along with how is used to profile expected resource usage and output event-rate of

new physics selections, before they are executed on the actual high level trigger farm.

## Tertiary Keyword (Optional)

Data processing workflows and frameworks/pipelines

## Secondary Keyword (Optional)

DAQ

## Primary Keyword (Mandatory)

Trigger

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