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Web Based Monitoring project at CMS experiment

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We present the Web-Based Monitoring project of the CMS experiment at the LHC at CERN. With the growth in size and complexity of High Energy Physics experiments and the accompanying increase in the number of collaborators spread across the globe, the importance of broadly accessible monitoring has grown. The same can be said about the increasing relevance of operation and reporting web tools used by run coordinators, subsystem experts and managers. CMS Web-Based Monitoring has played a crucial role providing that for the CMS experiment through the commissioning phase and the LHC Run I data taking period in 2010-2012. It has adapted to many CMS changes and new requirements during the Long Shutdown 1 and even now, during the ongoing LHC Run II. We have developed a suite of web tools to present data to the users from many underlying heterogeneous sources, from real time messaging systems to relational databases. The tools combine, correlate and visualize information in both graphical and tabular formats of interest to the experimentalist, with data such as beam conditions, luminosity, trigger rates, DAQ, detector conditions, operational efficiency and more, allowing for flexibility on the user side. In addition, we provide data aggregation, not only at display level but also at database level. An upgrade of the Web Based Monitoring project is being planned, implying major changes, and that is also discussed here.

Tertiary Keyword (Optional)

Trigger

Secondary Keyword (Optional)

DAQ

Primary Keyword (Mandatory)

Monitoring

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