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CMS Online Web Based Monitoring

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We present the Online Web Based Monitoring (WBM) system of the CMS experiment, consisting of a web services framework based on Jakarta/Tomcat and the Root data display package. Due to security concerns, many monitoring applications of the CMS experiment cannot be run outside of the experimental site. As such, in order to allow remote users access to CMS experimental status information, we implement a set of Tomcat/Java servlets running in conjunction with Root applications to present current and historical status information to the remote user on their web browser. The WBM services act as a portal to activity at the experimental site. In addition to HTML,java_scripts are used to mark up the results in a convenient folder schema. No special browser options are necessary on the client side. The primary source of data used by WBM is the online Oracle database; the WBM tools provide browsing and transformation functions to convert database entries into HTML tables, graphical plot representations, XML, text and Root based object output. The Root object output includes histogram objects and n-tuple data containers appropriate for download and further analysis by the user. We have devised a system of meta-data entries describing the heterogeneous database which allows the user to plot arbitrary database quantities, including multiple value versus time plots and time correlation plots. The tools can easily be extended to allow detector case-specific displays, with examples from the CMS Tracker and Hadronic Calorimeter shown.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

CMS

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