Contribution ID: **162**   Type: **Workshop**

Experiment Dashboard Providing Generic Functionality for Monitoring of the Distributed Infrastructure

Wednesday, 13 April 2011 16:00 (1h 30m)

Overview

The Worldwide LHC Computing Grid delivered a scalable infrastructure for the experiments of the Large Hadron Collider at CERN which this year started data taking. Reliable monitoring is crucial for achieving the necessary robustness and efficiency of the infrastructure and, to a big extent, defines the success of the LHC computing activities. On the other hand, monitoring of the WLCG infrastructure is a challenging task since the infrastructure is huge and heterogeneous; it comprises different middleware platforms (gLite, ARC and OSG) and integrates more than 170 computing centers in 34 countries. In order to provide monitoring of the distributed sites and services the Experiment Dashboard system developed several generic solutions which are shared by the LHC experiments but can be also used by other virtual organisations.

Impact

The Dashboard applications for infrastructure monitoring are widely used by the LHC virtual organizations for the computing shifts and site commissioning activities. During the first year of data taking Site Usability Dashboard and Site Status Board became essential components of the LHC computing operations.

Description of the work

The following applications focused on monitoring of the distributed sites and services are provided by the Experiment Dashboard syestem: Site Usability Dashboard, Site Status Board, Site View. Site Usability Dashboard evaluates site usability based on the SAM tests which are specific to a given virtual organization (VO).
Site Status Board provides a flexible framework which allows VOs to construct customized monitoring views based on monitoring metrics which are considered to be critical for various computing activity at the sites.

SiteView provides a single entry point for site adminstrators to understand how the site is used by the LHC VOs and to detect eventual problems preventing the site to perform effectively.
Though initially focused on the needs of the LHC VOs all the applications are generic and can be adapetd for the needs of other communities.

URL

http://dashboard.cern.ch

Conclusions

The talk will overview the Dashboard applications for infrastructure monitoring highlighting the possibility to use these applications outside the LHC domain.

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Session Classification: General Workshops

Track Classification: User Support Services - Infrastructure