

Generic monitoring solution for LHC site commissioning activity and LHC computing shifts

The LHC experiments will start collecting data this year. The number of people and centers involved in such experiments sets a new record in the physics community. For instance, in CMS there are more than 3600 physicists, and more than 60 centers distributed all over the world. Managing such a big number of distributed sites and services is not a trivial task. Moreover, the definition of a proper behavior for a site strongly depends on the software model of each experiment. To make the situation even more difficult, the status of the sites changes dynamically. To be able to cope with such a large scale heterogeneous infrastructure, it is necessary to have monitoring tools providing complete and reliable view of the overall performance and status of the sites.



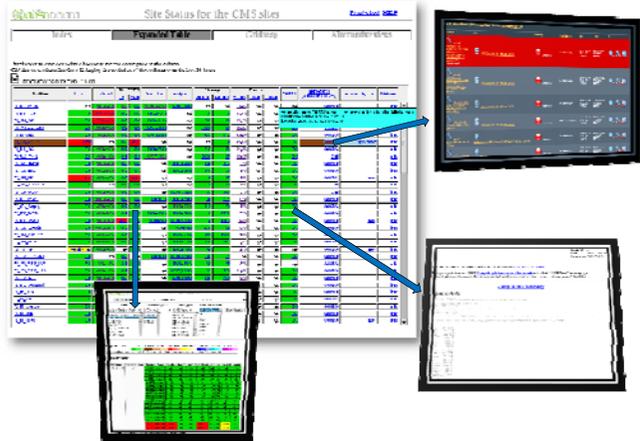
Status of the whole GRID in a glance

The home page of the Site Status Board (SSB) presents a list of all the sites involved in the experiment, with one single icon identifying the current status: running smoothly, warning, down or maintenance. This status is calculated combining all the critical metrics that the VO has defined. Moreover, it is possible to know for how long a site has had problems.



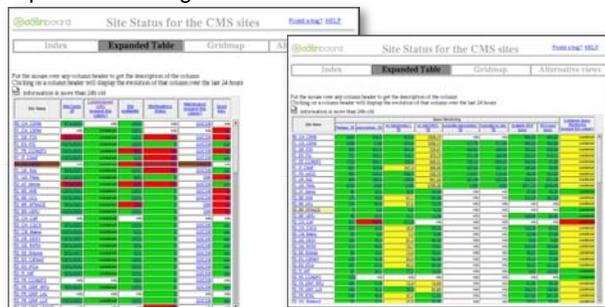
Investigating problems

The main page of the SSB displays a table with the metrics being monitored as columns and each site as a different row. This allows to quickly identify the problematic components. The cells can have references to more information about the problem and how to solve it.



Different activities

The VO has freedom to define the metrics that they want to monitor. This makes the SSB so flexible that it can be used for several activities. Currently, the SSB is used for the site commissioning activity and the Computing shifts in CMS. Each of these activities can define their preferred metrics. The plot below presents the 'Site Commissioning' and 'Space monitoring' views that CMS uses.



Generic

The Site Status Board can be used by any experiment. Following requests from ALICE and LHCb, we have deployed a version for them.



Conclusion

The Site Status Board (SSB) is a generic monitoring tool that displays the status of sites according to metrics defined by the Virtual Organizations. New metrics can be added easily, and the SSB will display not only the current status, but also their evolution over time.

The SSB is being used in the CMS site commissioning exercise and the CMS computing shifts. Moreover, the SSB has also been deployed for ALICE and LHCb.

<http://dashb-ssb.cern.ch/ssb.html>
<http://dashb-alice-ssb.cern.ch>
<http://dashb-lhcb-ssb.cern.ch>