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WLCG Network Monitoring using perfSONAR-PS

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The LHC experiments have significantly evolved their distributed data management architecture over time. This resulted in the underlying WLCG infrastructure moving from a very rigid network topology, based on the MONARC model, to a more relaxed system, where data movement between regions or countries does not necessarily need to involve T1 centers. While this evolution brought obvious advantages in terms of flexibility for the LHC experiment's data management systems, it also opened the question of how to monitor the increasing number of possible network paths, in order to manage and maintain a global, reliable network service.

The perfSONAR network monitoring framework has been evaluated and agreed as a proper solution to cover the WLCG network monitoring use cases: it allows WLCG to plan and execute latency and bandwidth tests between any instrumented endpoint through a central scheduling configuration, it allows archiving of the metrics in a local database, it provides a programmatic and a web based interface exposing the tests results; it also provides a graphical interface for remote management operations.

In this presentation we will report on our activities and plans for deploying a perfSONAR-PS based network monitoring infrastructure in the scope of the WLCG Operations Coordination initiative. we will motivate the main choices we made in terms of configuration and management, describe the additional tools we developed to complement the standard packages and present the status of the deployment, together with the possible future evolution.

Summary

Network monitoring for WLCG using perfSONAR-PS toolkit deployments; status; plans

Primary author: MC KEE, Shawn (University of Michigan (US))

Co-authors: BROWN, Aaron; Dr FORTI, Alessandra (University of Manchester); LAKE, Andy (ESnet); ZURAWSKI, Jason (Internet2); Dr ZIELINSKI, Marek (University of Rochester (US)); CAMPANA, Simone (CERN); Dr CAPONE, Vincenzo (Universita e INFN (IT))

Presenter: MC KEE, Shawn (University of Michigan (US))

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