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Subject: SA1
Date: Wednesday, October 21, 2009 13:08:19

High Energy Physics

The description of work in respect of High Energy Physics will cover support for the WLCG and FAIR applications communities.

Task 1: Testing of new middleware features and functionality in pre-production environments, as well as stress testing of key components following experiment requirements. This includes negotiation of service setups with various NGIs and middleware providers, definition of the test environment, scenarios and metrics, development of the test framework, test execution and follow up.

Task 2: Offer general grid expertise for identification and solution of middleware issues as well as site configuration and setup problems. This includes a possible risk analysis and definition of action plans to prevent escalation of criticality.

Task 3: Development of experiment specific operational tools. Such tools include intelligent mining of grid monitoring data (for both workload and data management), automation of workflows and procedures, enforcement of data consistency across various services (storage and catalogs).

Task 4: Support for the integration of experiment specific critical services into the WLCG infrastructure. This includes service deployment, definition of escalation procedures and support models.

Task 5: Development and operation of frameworks to facilitate end-to-end testing of data management, production and analysis workflows. This includes functional testing integrated with SAM and VO specific monitoring and real scenarios stress testing to investigate site and VO specific bottlenecks. Generalization of well established tools for service and site readiness validation (e.g. HammerCloud - stress testing using realistic analysis jobs) to provide coherent information to each participating grid site.

Task 6: Investigation and deployment of solutions to enable an effective user-to-user and user-to-expert support model. A first working prototype of distributed support exists (for ATLAS VO) and this will be the basis of a general suite of tools providing communications across the distributed teams.