QUARTERLY STATUS REPORT				
Project Name			**Date**	
Applications Area			2-Oct-06	
Report Period			**Author Name**	
2006 Q3			**Pere Mato**	
Milestones for the Quarter			**Status**	**Comments**
SPI-1	**31.12.05** **30.09.06**	Provide the tools for generating CMT and SCRAM configurations from a common generic configuration description based on XML description files. Be able to update the web and distribution's kits from the same description.	Achieved	A first version of the tool to generate the distribution kits (tarballs) from the XML description files has been created. The update of the web pages is now done by the script which generates the (binary) distribution kits from the XML description.
SPI-4	**31.03.06** **30.09.06**	Generate CMT configuration and distribution kits from the common (XML based) configuration description.	Recheduled 31.12.06	Major updates in the LCGCMT environment were done which allow Atlas a significantly more easy integration of LCGCMT into their nightly build setup. This work was only finished late in September, so the work on this milestone was rescheduled.
SPI-6	**30.09.06**	Move the build infrastructure of the LCG AA projects from scram version 0 to scram version 1. Provide the initial setup for the projects in collaboration with the experts on scram v1 from CMS.	Achieved	In discussions with CMS it became clear that the future support for scram version 1 is unclear. Therefore it was decided, in agreement with the LCG AA projects and the AF to move instead to CMT as the build infrastructure. This work is now scheduled for Q4 (see SPI-8)
SPI-7	**30.09.06**	Port the external packages and SEAL to the osx104_ppc_gcc401 platform (Mac OS X). Update the configurations to accomodate the new platform.	Achieved	All external packages of the configuration LCG_47 as well as SEAL 1.9.0 are now ported to the osx104_ppc_gcc401 platform (Mac OS X). The other projects will start porting soon.
ROOT-9	**30.06.06** **31.12.06**	First version of CINT running directly with the Reflex data	In progress	The time scale for this milestone has been very tight. It was postponed to the December release. During the initial implementation, we decided to be more ambitious than in the original plan and to take this opportunity to make deep restructuring of the CINT kernel, such that making a thread safe version of CINT later will be easier. The December release will include the first version of CINT based on Reflex. The next steps will be the changes in the ROOT meta classes to use directly the Reflex API instead of the CINT API. The intention is to support for sometime the current CINT as an option to the new Reflex-based version.
POOL-3	**30.08.06**	Finalize the migration POOL/CORAL to the new platforms (MacOSX, SLC4_amd64) with regular builds, and full running of the functional and data regression tests. Migration to scram v1	Partial completion OSX by 31.12.06	POOL and CORAL are regularly released for the SLC4 platforms. The plan to use the new scarm version has been abandoned by the AF. The builds for OSX is depending on OSX ports of SEAL and externals which are not available yet.
POOL-4	**30.09.06**	Development and deployment of LFC-based lookup and DB authentication services of CORAL	Partial completion Authenticati on by 30.11.06	LFC based DB lookup has been provided and released with POOL. The extension to allow authorisation based on LFC is well advanced and expected to be release by 30.11.06.
COOL-4	**30.06.06** **30.09.06**	Support for multi-channel bulk insertion operations.	In progress. Reschedule d 31.12.06	This task was allocated to the one of the two ATLAS developers who have left the COOL project and therefore needs to be delayed until replacement manpower is available.

SIMU-9	**30.06.06** **30.09.06**	Investigation of correction for test-beam data for validation of stand-alone simulation engines (VD617)	Achieved	The first investigation, based on the ATLAS electromagnetic barrel calorimeter test-beam of 2002, on correcting some observables for digitization and reconstruction effects to allow validation of stand-alone simulations engines has been done and already presented to the ATLAS Collaboration. Some further work, on the same test-beam data, is undergoing, and a presentation is scheduled for the next Physics Validation meeting (25 October).
SIMU-12	**15.12.05** **31.10.06**	Introduction of modularization of GDML files (SF537)	Achieved	Both the GDML 'reader' and the GDML 'writer' have been extended to provide supports for modular GDML descriptions. The writer can 'split' the geometry into different files according to either the volume names or the 'level' in the geometry tree. The reader supports inclusion of GDML files one into another where either the whole geometry trees are included or only parts of them.
SIMU-4	**31.12.05** **31.10.06**	First results of the ATLAS combined and 2004 test-beams data comparisons (VD532)	Achieved	The results of CMS HCAL 2004 test-beam analysis has been presented, confirming the problem of the main Geant4 Physics List, QGSP, for the longitudinal shower shape at high beam energies. The first results of ATLAS combined 2004 test-beam has been presented, showing a good understanding of the material description and instrumental effects. Now a detailed validation of various Geant4 Physics Lists is possible, and is actively undergoing. A close collaboration between the ATLAS experimentalists and the Geant4 developers is foreseen in this phase.

Summary Of Progress

A couple of new complete software configurations (LCG_46 and LCG_47) have been made available during the last quarter in the Applications Area. They include the new releases of ROOT, CORAL, POOL and COOL packages, which are currently used by the experiments for the various data challenges.
The production version of ROOT 5.12.00 was released on July 11th as scheduled with a new version of the User's Guide. In includes, in addition to several new functionalities and bug fixes, a very interesting set of I/O optimizations for remote access such as read ahead, request grouping, etc. The work in adapting the CINT interpreter to the Reflex data structures is progressing rapidly and getting better estimates of the amount work involved. It is expected to have a first version for test purposes by the December release of ROOT. The PROOF system has been tested in the Alice CAF prototype with very promising results.

The Generator services sub-project is being re-structured as a result of a number of concerns expressed by the leading authors of MC generators during the MC4LHC workshop in July at CERN. The project received the strong support from the experiments to continue under its original mandate: to provide services for well-maintained repositories of MC generators on LCG-supported platforms. The new project leader is preparing a new plan taking into account their concerns and will be presented on a special meeting in which all the stakeholders of the project are invited.

The AA internal review took place from September 18th to 20th. This review has been an opportunity for the AA projects to take a close look at the current status and at what still needs to be done in terms of new functionality before the LHC startup. It has also been very useful to inform the experiments and other projects of the progress that have been made during the last 18 months. The material for the review can be found at http://lcgapp.cern.ch/project/mgmt/rev200609. The final review report is not yet available at this time. Once this is done the report will be studied and possibly a number of new milestones will be proposed to cover the recommendations by the review committee.

Outstanding Issues since Last Report

Milestones Changes and Actions

References and Hyperlinks

New Milestones Proposals				Comments
SPI-8	**31.12.06**	Move the build infrastructure of the LCG AA projects from scram to CMT. Discuss with the experiments their needs in terms of modularity for the packages provided in LCGCMT.	New	

SPI-9	**31.06.07**	Set up an automated build system including running the tests and providing a web based view on the status of the builds/tests.	New	
POOL-7	**31.12.06**	Provide a python interface for CORAL	New	Similar to the FileCatalog and COOL package also CORAL should support scripting via python.
POOL-8	**31.03.07**	Provide schema evolution for relational data according to a priority list of required use cases provided by the experiments.	New	The time this milestone is expected needs to be confiermed by the feedback from the experiments.
Comments and Additional Information				