

FY09 Plan for **LHC/USCMS Software and Physics Support**

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Relevant Strategic Plans - [LHC CMS Strategic Plan](#) (LHCCMS)

USCMS Software and Physics Support Goal -

- Meet the U.S. obligations to International CMS in the areas of software framework, detector geometry, and support for software distribution and configuration. Meet the US-CMS needs for software and computing support for analysis.
- To facilitate the LPC visitors and resident scientists in commissioning the CMS detector, preparing for physics and performing analysis.

USCMS Software and Physics Support Strategy –

- Participate in the regular CMS major software releases. Perform incremental development with frequent internal and external testing and validation. Deliver software on schedule for CMS integration and commissioning activities and service challenges. Provide support for the physics community through tutorials, documentation and direct support.
- Operate a dedicated help desk to provide support for the resident community.

LHC/USCMS Software and Physics Support

Objectives for FY09

1. Support of CMSSW for the 2008 run. The large number of bug fix releases as foreseen in last years plan has already happened. We are continuing the work to address and trouble shoot problems in a timely manner, and integrate those fixes into CMSSW distributions as quickly as possible.
2. Continue to work on performance and scalability of CMSSW software. Start to address the memory scaling issues associated with moving to higher core per dye machines, which we know, are being planned in future computing purchases.
3. Continue to operate a full time business hour helpdesk at the LHC Physics Center (LPC)
 - a. Provide direct in person support
 - b. Monitor and respond to helpdesk tickets and the community support mailing lists
4. Provide dedicated physics support for LPC residents in using CMS analysis code and infrastructure. Provide guidance to those hired by the LPC CMS center to work on physics support. Work on recruiting more manpower through this channel.
5. Continue the engagement of CD supported personnel in US-CMS LPC physics work and international CMS physics groups.
6. Continue the engagement of CD supported personnel in the US-CMS DAQ project. Specifically the PPD managed Storage Manager Project.
7. Provide tutorials and documentation for users as needed (roughly quarterly during the final year of preparations).

Priorities: The most important objective is to maintain a release schedule that allows CMS to collect data during 2008 and 2009. The priority of physics support is to maximize the analysis potential of CMS and the local community by training and support of users.

Staffing: The software and support project has reached the level of effort foreseen in the US-CMS Software and Computing project plan. Currently Software and Support relies on effort from the following individuals from the computing division. In addition there is 2FTE of effort at U.S. universities supported by the U.S. CMS Project.

- David Dagenhart (1.0FTE)
- Chris Jones (1.0FTE)
- Jim Kowalkoski (0.2FTE)
- Sudir Malik (1.0FTE) (Guest Scientist)
- Charles Plager (0.5FTE) (Guest Scientist)
- Marc Paterno (0.4FTE)
- Natalia Ratnikova (0.25FTE)
- Patrick Gartung (1.0FTE)
- Elizabeth Sexton-Kennedy (0.8FTE)
- William Tanenbaum (1.0FTE)
- Eric Vaandering (0.5FTE)
- Kurt Biery (0.5FTE)

Change control:

Scope and schedule changes in the software area are dedicated by the international CMS offline project coordinator in consultation with the level 2 managers for offline. The offline manager for framework is Elizabeth Sexton-Kennedy. The department head for CD-CMS will approve changes in the scope and schedule of physics support.

Risk Assessment:

This activity relies on specialized skills from dedicated developers and replacement and retraining is long process if someone is lost.

1. Failure to deliver software releases during data taking will have a major impact on the physics potential of CMS.