US-CMS Milestone Completion Report

Title: Deployment of the analysis environment for the Physics TDR
Year: 2005
Expected Completion Date: July 2005
Actual Completion Date: July 2005

Description of Milestone: This milestone describes the goal to deploy a first class analysis environment at FNAL to allow the user community to prepare the analysis needed for the Physics Technical Design Report. At FNAL this involved publishing the existence of samples available at FNAL, providing high performance mass storage access to the datasets, providing a central repository for the experiment software, providing local storage for users, and providing processing resources.

Conclusions:
The deployment of the local analysis environment was successful. US-CMS took responsibility for hosting all the Jet and Missing Energy (JetMet) data and a large portion of the Higgs samples. This represented more than 25% of the total producted simulation. In total there are over 250 datasets available at FNAL. Several of JetMet samples were heavily accessed as a background to a variety of analyses.

The facility consisted of 50TB of disk cache at the completion of the milestone, growing to 100TB by the end of 2005. There are 8TB of disk space accessible to users and physics groups outside the mass storage system. The facility also consists of a 1000 batch slot processor farm, which was shared between local users, grid users, and CMS simulated event production.

At the end of the year there were 50 software packages installed at the US-CMS Tier-1. There were multiple versions of the simulation, reconstruction, visualization, and framework packages. To support analysis development, US-CMS built debugging release of several reconstruction packages, and installed pre-release versions of the new framework code to support framework development.

450 individuals have signed up for access to the User Analysis Facility, a small cluster of machines for interactive use. At any given time 10%-15% of those users are logged in and performing work on the interactive nodes or submitting requests to the batch farm.

The local analysis environment allowed analysis that was published in the Physics TDR to be performed at FNAL.