CMS Computing Experience from the WLCG STEP'09 Challenge to the First Data Taking of the LHC Era

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The WLCG project decided in March 2009 to perform scale tests of parts of the WLCG infrastructure before the start of the LHC data taking. The "Scale Test of the Experimental Program 2009" (STEP09) was performed mainly in June 2009 - with more selected tests performed in the Fall - and emphasized the simultaneous test of the computing systems of all 4 LHC experiments. CMS tested its Tier-0 tape writing and processing capabilities. The Tier-1 tape systems were stress tested using the complete range of Tier-1 workflows: transfer from Tier-0 and archival of data on tape, processing and subsequent archival, redistribution of datasets amongst all Tier-1 sites as well as burst transfers of dataset to Tier-2 sites. The Tier-2 analysis capacity was tested using bulk analysis job submissions to backfill normal user activity. In this talk, we will report on the different performed tests and present their post mortem analysis.

After many years of preparation of the computing infrastructure for LHC experiments, the distributed systems have been finally put into operation as the LHC accelerator started recording collision data in November 2009. In the past, CMS gained many valuable experiences in the various computing challenges and tests, last in the Scale Test of the Experimental Program in 2009 ("STEP09"). In this talk we will report about the first experience with CMS computing during LHC collision data taking and will describe the behavior of all the components of the CMS computing infrastructure when processing, transferring and storing LHC collisions data.