

# Stability and scalability of the CMS Global Pool: Pushing HTCondor and glideinWMS to new limits

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The CMS Global Pool, based on HTCondor and glideinWMS, is the main computing resource provisioning system for all CMS workflows, including analysis, Monte Carlo production, and detector data reprocessing activities. Total resources at Tier-1 and Tier-2 sites pledged to CMS exceed 100,000 CPU cores, and another 50,000-100,000 CPU cores are available opportunistically, pushing the needs of the Global Pool to higher scales each year. These resources are becoming more diverse in their accessibility and configuration over time. Furthermore, the challenge of stably running at higher and higher scales while introducing new modes of operation such as multi-core pilots, as well as the chaotic nature of physics analysis workflows, place huge strains on the submission infrastructure. This paper details some of the most important challenges to scalability and stability that the Global Pool has faced since the beginning of the LHC Run II and how they were overcome.

## Tertiary Keyword (Optional)

Distributed workload management

## Secondary Keyword (Optional)

Computing middleware

## Primary Keyword (Mandatory)

Computing facilities

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