

CMS Site in a Box: Deploying a Tier-3 Site using Local Resources and Central Services via a Centrally Managed Server

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Even as grid middleware and analysis software has matured over the course of the LHC's lifetime it is still challenging for non-specialized computing centers to contribute resources. Many U.S. CMS collaborators would like to set up Tier-3 sites to contribute campus resources for the use of their local CMS group as well as the collaboration at large, but find the administrative burden of setting up and operating full OSG compute and storage elements too large a burden for their available effort. In order to reduce the operational cost and expertise overhead needed to provide a functioning Tier-3 access point to compute resource the USCMS Tier-3 support team has sought to adapt and expand the successful Site-in-a-Box model utilized by the Pacific Research Platform into a more generic support structure. This model assumes the onsite presence of a centrally managed, single server to serve as a XRootD server, redirector and cache, a platform for various HTCondor tasks and a Squid cache for CVMFS. This server is coupled with a dedicated GlideInWMS pool to facilitate job submission and optionally an OSG Hosted-CE service depending on the needs of the site. We discuss the technical details of this approach as well as specific instances of deployed servers, highlighting commonalities and differences between current deployments.

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