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## New CernVM-FS use cases at CMS

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CernVM-FS remains a central service for the distribution of the CMS Offline Software (CMSSW). Traditional use cases include the distribution of CMSSW releases and container images. It also plays a crucial role in the deployment of Integration Builds (IB) and pull request testing as part of the CMSSW CI/CD workflow.

In this contribution, we present three new use cases of CernVM-FS for CMS. Firstly, the distribution of gridpacks to accelerate Monte Carlo generation. Gridpacks are pre-computed diagrams distributed in the form of tarballs that are used as lookup files. The CernVM-FS ingest command allows the serving of already-untarred gridpacks, reducing the load of unpacking them on computing sites. Secondly, the use of opportunistic HPC resources using the `singcvmfs` command in the `cvmfsexec` package. The CMS Offline infrastructure already makes use of AMD GPUs from the LUMI HPC in Finland, thanks to FUSE pre-mounting. Finally, we are currently building the CMSSW software stack for the RISC-V architecture. To include this new architecture in the CMSSW IBs, deployment to CernVM-FS using emulation on the publisher nodes has been implemented.

These new use cases at CMS highlight the importance of CernVM-FS in streamlining workflows and improving the performance of the CMS Offline infrastructure.

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