

PILOT 2 ON HPCs

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HPC Pilot Workflow

- Special mode where the application works without a remote connection to PanDA server or other remote facilities
 - In this mode Pilot 2 acts like a simple MPI application, which performs execution of multiple jobs on the compute nodes of the HPC
 - All intercommunications in this case are managed by Harvester
- HPC Pilot workflow selected by using pilot option `-w generic_hpc`
- Different HPCs may require special treatments for the preparation of launching the payload
 - Resource specific plugins must therefore be implemented
 - Plugin is selected by using pilot option `--hpc-resource resource_name`
- Developer info with technical details regarding HPC Pilot workflow and plugins published in January (D. Oleynik/P. Nilsson, input from D. Benjamin)
 - Available at <https://github.com/PanDAWMS/pilot2/wiki/HPC-workflow>
 - Implementing a plugin does not require a lot of coding

Status and Plans

- HPC resource plugins
 - Plugin for Titan already developed and used in production since last year (D. Oleynik)
 - Skeleton Pilot 2 plugins exist for ALCF, BNL, NERSC, Summit
- Support for execution in containers with ATLAS SW (Releases) was implemented for OLCF (again through plugins - because of special requirements for Singularity on Titan)
 - Unfortunately Singularity unstable on Titan, so it's cant be used on the production scale
 - Will have production support on Summit
- Access will be granted to Summit soon
 - Harvester + Pilot 2 will be setup asap to test exotic payloads
- Yoda/Droid integration to be discussed during Jamboree (with D. Benjamin)
 - Expect to begin with using Pilot 2 defined error codes in Yoda/Droid asap
- Planning to submit a CHEP 2019 abstract about HPC Pilot