

9 - Job submission

Job submission can be direct using the HTCondor batch system from the UIs or via Grid middleware from an UI that can be located anywhere.

In the latter case authentication and authorization are by default managed through Virtual Organizations (VO) [12]. To become member of the VO, the user needs a personal certificate and has to enroll on a VOMS Server.

Some examples of VOs hosted in CNAF VOMS servers (they are all replicated in another site, normally Padova or Naples) are:

- <https://voms.cnaf.infn.it:8443/vomses>
- <https://voms2.cnaf.infn.it:8443/vomses>
- <https://vomsmania.cnaf.infn.it:8443/vomses>

Information about VOs can be found at:

- <https://operations-portal.eji.eu/vo>

Infrastructure

CNAF Tier1 has replaced LSF by HTCondor in the first half of 2020. The infrastructure consists of:

- sn-02.cr.cnaf.infn.it: a submit node for submission from local UI.
- ce02-htc.cr.cnaf.infn.it, ce03-htc.cr.cnaf.infn.it, ce04-htc.cr.cnaf.infn.it, ce05-htc.cr.cnaf.infn.it, ce06-htc.cr.cnaf.infn.it, ce07-htc.cr.cnaf.infn.it: 6 computing elements for grid submission.
- htc-1.cr.cnaf.infn.it, htc-2.cr.cnaf.infn.it: two central manager nodes in high availability.
- 1000 worker nodes.

On a UI the user can submit a job to the submit node, which then deals with the routing to the central manager, responsible for dispatching the jobs to the worker nodes.

CEs in production:

- grid submission endpoints: ce02-htc.cr.cnaf.infn.it:9619, ce03-htc.cr.cnaf.infn.it:9619, ce04-htc.cr.cnaf.infn.it:9619, ce05-htc.cr.cnaf.infn.it:9619, ce06-htc.cr.cnaf.infn.it:9619, ce07-htc.cr.cnaf.infn.it:9619.
- local submission (from CNAF UI) endpoint: sn-02.cr.cnaf.infn.it.

HTCondor docs and guides are available here [6], [7].