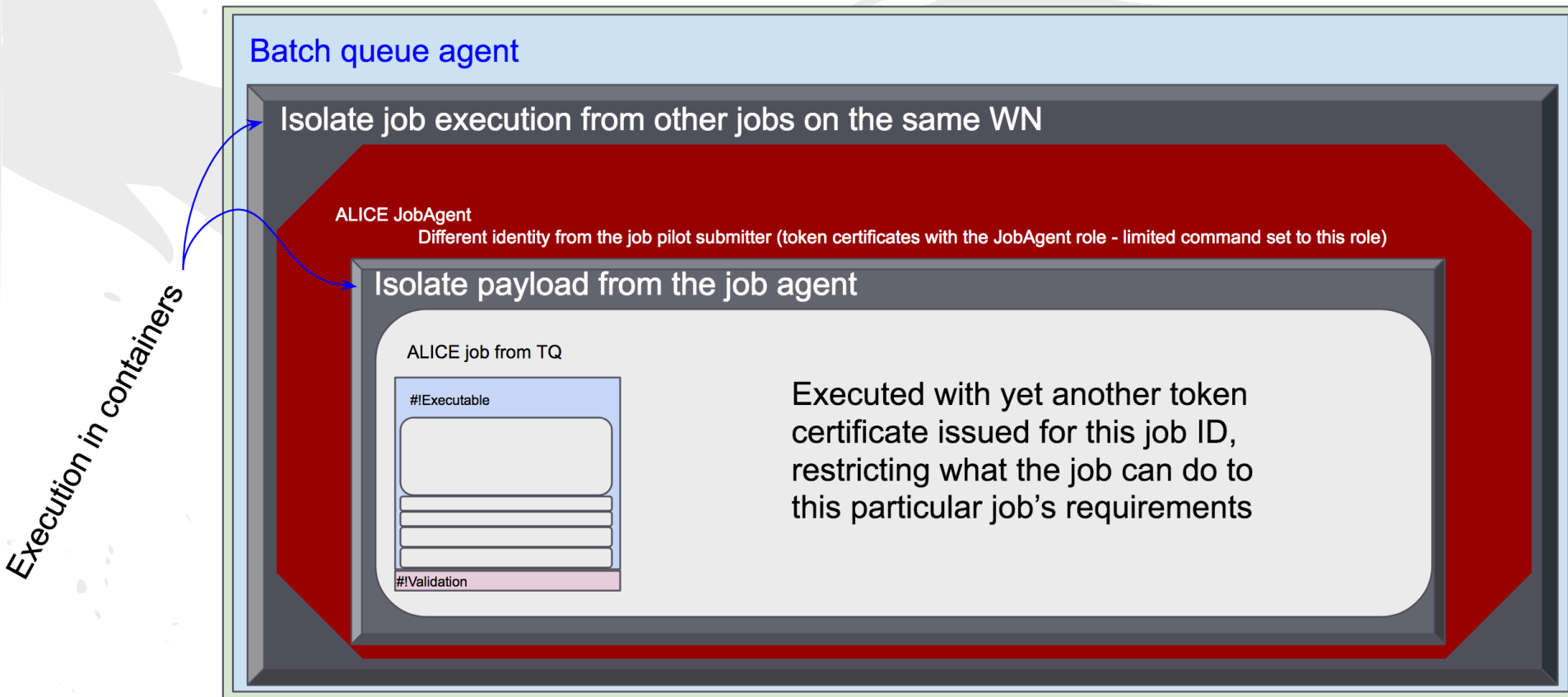# SINGULARITY @ ALICE

# REQUIREMENTS

- **CVMFS** => *-B /cvmfs:/cvmfs*
  - If to avoid setuid this is not doable, CVMFS provide ways to use *external* cache so it still shared as much as possible. Otherwise CVMFS inside the container, local caches (squids/stratums pushed)
  - Regarding image distribution (*unpacked*), is relevant to keep the infrastructure healthy, should offer same content from the container view

- **/tmp** used in analysis framework
  - Testing if setting $TMPDIR for the payload cover all the grid use-cases
  - We would like to keep /tmp contained to avoid jobs polluting that area too much and bringing nodes down (black holes) => --contain or –B
    - Also we have seen how some nodes/batches had shared files, credentials, and undesired stuff in /tmp too

- **Workdir/$PWD of the job** => *mkdir ./alien-job-$id* and *-B ./alien-job-$id:/workdir*

  (or whatever agreed folder name)
  - We have a 2-layer pilot: the first one does only matching; the second one prepares job files and environment and runs the payload (and would prepare Singularity execution). Credentials passed safely between the layers (next slide)

- **HEP_OS_libs** => *on image build*

# PILOT

One slot

Execution in containers

**Batch queue agent**

Isolate job execution from other jobs on the same WN

ALICE JobAgent
Different identity from the job pilot submitter (token certificates with the JobAgent role - limited command set to this role)

Isolate payload from the job agent

ALICE job from TQ

#!Executable

#!Validation

Executed with yet another token certificate issued for this job ID, restricting what the job can do to this particular job's requirements

- Being developed only in new AliEn version (JAliEn)
- Plan to have first production site by April

A Large Ion Collider Experiment