

# Singularity deployment

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# Singularity in CVMFS

- singularity deployment from CVMFS doesn't require sites to install the rpm
  - Caveat is that sites **MUST** enable user NS because the executable in /cvmfs will not use setuid for this to work.
- Agreed also at the WLCG container meeting.
  - Experiments agreed **not** to have a common executable to avoid to break each other workflows.



# Singularity in CVMFS

- For the experiments
  - Pros: deployment uniform, predictable and easier to adapt
- For sites
  - Pros: one less thing to install
  - Cons: less control over the config
- Pilot will use local installation if it exists otherwise will fall back to CVMFS
- Sites without CVMFS will of course still need local installation



# User NS

- Kernels  $\geq 3.10-957$  support user NS by default
  - `CONFIG_USER_NS = yes` ← this is already set in the kernel
- To enable user NS you still need to run these `sysctl` commands on the WNs

```
echo "user.max_user_namespaces = 15000" > /etc/sysctl.d/90-max_user_namespaces.conf
sysctl -p /etc/sysctl.d/90-max_user_namespaces.conf
```

- Singularity configured without `setuid` will use user NS automatically
- Underlay **works** in user NS and **MUST** be enabled
  - `Enable underlay = yes` ← in `singularity.conf`
    - If  $\geq 2.6.1$  and it's not there **your config is not up to date**

