LHCb and Linux distros

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Basic questions

- CERN is *proposing to target CentOS Stream as the standard distribution for experiments*
- Is CentOS stream stable enough to run the online farm on?
  - If not, should a replacement be found?
- Could we take this as an opportunity to generalize the use of unpacked containers?
  - Already used on the grid (with singularity)
  - Already used on the online farm for some DIRAC jobs
  - Decouples the system OS from the one for the physics stack releases
  - Enables isolation of workloads (needed for security reasons)

Of course we need to make sure to fulfill all use cases (including shared clusters)

Offline point of view

- In Core software tools, containers are already in use:
  - Via Docker in the continuous integration system (gitlab-ci, LHCb nightlies)
  - Services more and more provided via OpenShift
  - Still running a number of physical machines and VMs

Dependent on the LCG stack, for the choice of the base OS to run the physics applications

For physical hosts/VMs following CERN IT recommendations (management + security)

- Distributed computing (DIRAC):
  - Use of unpacked containers already done where needed
  - Already see some sites with non-RHEL/CentOS workers
  - DIRAC distribution brings its own externals (a.k.a DIRAC OS). It needs to run on all grid hosts

Online point of view

- We need a supported base bare-metal OS, support no more than 2 versions
- As long as applications run directly on the OS we need very high degree of stability → a rolling release does not make this easier
- Containers can isolate us from the details of the bare-metal OS and so would allow us to move forward with the OS with more confidence more easily
  - already running several services on k8 and are converting more
  - **very open to run more (offline) applications in containers** - integration with the ECS needs to be ensured of course
- **But**: There are several low-level (mostly DAQ) applications and the crucial WinCC software where a containerized is not optimal (to put it mildly)
- **Conclusion:** CentOS7 baseline, switch to RHEL8 where / when needed
  - should CERN's RedHat contract not go forward, replace RHEL8 with Rocky Linux.