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Experience with containers for OSG NovA jobs

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Today's physics experiments strongly rely on computing not only during data taking periods, but huge amount of computing resources is necessary later for offline data analysis to obtain precise physics measurements out of the enormous amount of recorded raw data and Monte-Carlo simulations. Large collaborations with members from many countries are essential for successful research on complex experimental infrastructure and within such organization it was natural to use distributed computing model. Besides broad physics program Institute of Physics of the Czech Academy of Sciences (FZU) also serves as a regional computing center that supports grid computing for several big experiments (WLCG, OSG, ...) and local user's analysis. It is becoming difficult to provide optimal uniform computing environment to the growing number of supported user groups and their different or even contradictory requirements. Also we would like to explore new features that comes with modern systems, but often software used by experiments is not certified for latest version and experiments in their final phase doesn't really want any changes in their computing environment. To satisfy all our users requirements, most efficient use of modern hardware and optimal utilization of all resources in our cluster we decided to upgrade our local batch system to HTCondor. HTCondor provides us means to run jobs in isolated and per experiment specific environment by utilizing lightweight container technology. With jobs running in containers we can still accept OSG NOvA grid jobs while at the same time we install modern OS on our new hardware.

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