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## Docker experience at INFN-Pisa Grid Data Center

A large scale computing center, when not dedicated to a single/few users, has to face the problem of meeting ever changing user needs with respect to operating system version, architecture, availability of attached data volumes and logins. While clouds are a typical answer to these types of questions, they introduce resource problems like higher usage of RAM, difficulty to expose bare metal additional hardware, and are in general a few % slower. The Pisa computing center chose to use CHROOT long ago, in order to meet the needs of more than 50 user groups, with distinct needs. The CHROOTed system were started from a local tar image, preloaded on the host systems. We recently started investigating system distribution and setup via Docker, which does not cause any of the resource problems clouds do. We report here on our experience, and on the ease of its deployment on a 8000+ cores computing centers. Docker has also be used to deploy user specific services, like web portals, caching machines and web services. The data volume distribution is obtained via a 2+ PB GPFS system mounted on the host systems, which is attached to the CHROOTed machines whenever needed.

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