Computing in High Energy and Nuclear Physics (CHEP) 2012



Contribution ID: 539

Type: Poster

Automating Linux Deployment with Cobbler

Tuesday 22 May 2012 13:30 (4h 45m)

Cobbler is a network-based Linux installation server, which, via a choice of web or CLI tools, glues together PXE/DHCP/TFTP and automates many associated deployment tasks. It empowers a facility's systems administrators to write scriptable and modular code, which can pilot the OS installation routine to proceed unattended and automatically, even across heterogeneous hardware. These tools make it so system administrators do not have to move between various commands and applications and then and tweak machine specific configuration files when deploying the OS. Network deployments can be configured for new and re-installations via PXE, media-based over-the-network installations, and virtualized installations that support Xen, qemu, KVM, and some variants of VMware. Cobbler supports most large Linux distributions, including Red Hat Enterprise Linux, Scientific Linux, Centos, SuSE Enterprise Linux, Fedora, Debian, and Ubuntu.

Here at the RACF at Brookhaven National Laboratory, we had been deploying network PXE installs for many years, and needed a centralized and scalable solution for Linux deployments. This paper will discuss the ways in which we now use Cobbler for nearly all Linux OS deployments, both physical and virtualized. We will discuss our existing Cobbler setup, and the details of how we use Cobbler to deploy variants of the RHEL OS to our 250+ infrastructure servers.

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Session Classification: Poster Session

Track Classification: Computer Facilities, Production Grids and Networking (track 4)