Abstract

NPACI Rocks is an open source clustering distribution for heterogeneous x86 and IA64 HPC Linux Clusters. The first version of Rocks was released in November of 2000, and has averaged 3-4 releases each year since. NPACI Rocks is unique in that it is a complete “cluster on a CD” software distribution, everything from the base Red Hat OS, to de facto standard job schedulers and monitoring systems are included. Rocks was designed with the goal of making clusters easy and accessible to domain application scientists. To achieve this goal, Rocks automates the common and most time consuming tasks of cluster administration and deployment.

This tutorial assumes minimal experience with cluster administration and use. Experience with common clustering toolkits is useful but not required. We will cover the basic design and philosophy of Rocks and the procedures to customize Rocks for unique sites and non-HPC clustering roles. A hands-on lab will guide participants through building their own cluster. Toward the end of the lab, the individual clusters will be bound together as a Grid where each participant will launch Grid-wide jobs. NPACI Rocks software and documentation is available at www.rocksclusters.org.