

Introduction to OpenStack

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For the cyber defense competition, we leveraged OpenStack to provide an infrastructure for teams to provision and manage cloud resources. OpenStack gives users a central place to manage virtual machines, virtual machine images, networks, firewall rules, and persistent block devices, with a focus on multi-tenancy.

This talk will go over the general architecture of OpenStack, comparisons between OpenStack and other hypervisors, as well as a demonstration of the following features:

- Viewing and uploading virtual machine images
- Creating and destroying virtual machines
- Managing security groups
- Exposing virtual machines to the Internet with floating IP addresses
- Creating snapshots of virtual machines
- Overview of networks and routers
- Creating and attaching volumes to virtual machines

This talk will be most useful to those interested in trying a public cloud powered by OpenStack (such as Rackspace or HP Helion) or those participating in the cyber defense competition.