

Ganeti at PDX

Dustin Rice
dustin@pdx.edu

Ganeti Conf 2014
September 2, 2014

Introduction

- Linux sysadmin for 10 years
- Focus on virtualization
- Began with KVM
 - Some Xen
- Worked mostly in higher ed

History with Ganeti

- First saw in 2011 at OSCON
- Implemented at U of A in 2012
- DRBD in EL
 - Issues
 - Pros/Cons

PSU Linux Environment

- RHEL/CentOS 5 and 6
- Puppet (Currently v 2.7)
- Few yum repos as possible
- Using Integ Ganeti repo and EPEL
 - http://jfut.integ.jp/linux/ganeti/6/x86_64

PSU Ganeti Cluster

- Version 2.9.x (I know, I know)
 - Why?
- 14 nodes (90+ Instances)
 - 8 Dell m610 blades
 - 2 Dell r620 servers
 - 4 Dell m620 blades
- Blade versus server?

PSU Ganeti Cluster

- Sharedfile disk template
 - Why not DRBD?
 - Primary/Secondary Nodes
- NFS Storage
 - NetApp Backend
- Provisioning VMs
 - Cobbler/Kickstart

PSU Ganeti Cluster Storage

- Clustered Data ONTAP 8.2.2RC2 with four 3220 nodes
- Uses 4TB Near-line SAS 7200RPM
- 500GB Flash Cache PCI module for random read access
- 20 GB Aggregate ethernet bandwidth

PSU Ganeti Cluster Resources

- 14 Nodes
- 256 total CPUs (w/ HT) 544GB total RAM across cluster
- 1.5 TB storage (w/ de-dupe)
 - 1.29TB on disk (398.07GB after de-dupe)
- 1 x 1Gb innerconnects
- 1 x 1Gb bridged NICs
- ~40% capacity total

Xen Conversion

- Started with ~60 VMs on ~15 hosts
- Why do the conversion?
- Initial challenges
 - Convert or rebuild?
 - Time cost versus gains
- Convert using virt tool (virt-v2v)

Xen Conversion Detail

- Setup KVM and libvirt
- Dump XML meta data
 - Deal with disk (block versus file)
- Convert with virt-v2v
- Put disk file in place

Lessons Learned

- Have a better test environment
 - More of a production mirror
- More aggressive update cycle
- Find a better EL-style yum repo

Moving forward

- Update hardware (both Ganeti and NetApp nodes)
- Hot Site Replication for DR
- KSM (<http://www.linux-kvm.org/page/KSM>)
- Performance tweaks (<http://www.linux-kvm.org/page/VhostNet>)
- Ganeti Web Manager

Questions and Discussion