Success Story: Bring your VMware Infrastructure to the next level using CloudStack
CloudOps specializes in building, supporting and managing cloud computing platforms (private, hybrid and public).

And we manage CloudStack/CloudPlatform on a 24/7 basis.

Unique expertise with load-balancing Application Delivery Controllers built over 12 years of experience.

Unique expertise with EUEM and APM.

Developed best-in-class cloud architecture and operational model.

Customers in Canada, US and EME (no Asia yet, but will work on it!)

Cool/Important contributions to CloudStack.
Some Context...

- A year+ ago, Radialpoint came to us saying: “We want PaaS!”
- Sure! So we did workshops…
- At the end, we built a nice report saying: “You need IaaS first!”
- Then we did a small PoC with CloudStack!!
• 100+ employees
• Strong innovation culture (e.g. quarterly hackathons)
• Existing portfolio
  • Technical Support Platform/Software (partnership with ISP/retailers)
  • A SaaS offering with million subscribers
• Start-up product lines: tech support search engine & SDK to help enable mobile apps
• Open source friendly but strong enterprise infrastructure
  • Linux/Windows environment (80% / 20%)
  • 99% virtualized (VMware)
  • Java/.NET/Python, Oracle, MSSQL, PostgreSQL, Hadoop, mobile (iOS, Android)
• Based in Montréal, Canada
Environments

- 3 data centers
  - Production active (Toronto)
  - Production standby (Montréal)
  - DEV/QA (Montréal head office)
- No presence in US (patriot act)
- Migration of DR site to AWS (Ireland) in progress
- VMware in cluster configuration with shared storage (Cisco UCS)
- ~500 VM across 3 sites
- NOC team manages: network, servers, OS, virtualization, storage…
Problems

- DC switch over are manual and painful
- Each request for a server creation goes through a lovely ticketing process
  - Developer → Ticket
  - Ticket → Triage
  - Triage → Review requirements
  - Review → Approval
  - NOC → Creation of the VM (from template)
  - Integration team → Configure applications
  - Total execution time: days…
Solutions

- Automation, automation, automation
- Infrastructure as a service (IaaS)
  - CloudOps recommended us CloudStack
  - PoC in spring 2013
  - Sceptic at the beginning
    - Resource management
    - Limitation on VMware features
    - Why not VMware vCloud?
  - CloudStack for dev: August 2013
  - CloudStack for production: October 2013
CloudStack

- Started with version 4.0

Notes
- VMware support still requires vCenter
  - Standard vs Enterprise license
- Networking: Shared network, isolated, public
- Initial configuration for VMware interfaces is not straightforward
- First environment: 2 hosts (12 cores, 192 GB RAM) + SAN storage (cannibalized from production stand-by site)
- 1 CloudStack account for each development team
- User authentication with our internal active directory
- Created basic templates: CentOS 6, CentOS 5, Windows 2008
Observations

• Getting DEV teams on board
  • Presentation of CloudStack GUI + API (CloudMonkey)
  • Cloud Janitor?
• Adoption of CloudStack has continuously increased over time
  • Replaced huge workstation required to run VirtualBox/VMware Workstation
• Enabled automation team to leverage SaltStack to build complete environments: VMs + stack of apps
• Dev teams now have visibility on VM and resources: no need for cloud janitor
• Users started creating their own templates
Infrastructure

Toronto

Montréal

NetScaler

VMware vCenter

VMware Hosts

nimbble storage
CloudStack Infrastructure

CloudStack VMware Cluster (2)

VMware Cluster (6)

CloudStack Management

CloudStack DB

CloudStack DB

Production VM

VMware vCenter
CloudStack Networks

CloudStack Network (10.10.0.0/16)

VLAN 1 (10.10.1.0/24)
VLAN 2 (10.10.2.0/24)
VLAN 3 (10.10.3.0/24)
VLAN 4 (10.10.4.0/24)
VLAN 5 (10.10.5.0/24)
VLAN 6 (10.10.6.0/24)
VLAN 7 (10.10.7.0/24)
VLAN 8 (10.10.8.0/24)

Router

CloudStack Management & DNS

VLAN 0 (10.10.0.0/24)

Radialpoint internal network (10.1.0.0/16)

NetScaler VPX
After 6 months

- Because of the success of the new IaaS platform, we added a 3rd host to the cluster.
- Overprovisioning issues: CPU, memory and storage
- Virtual router issues: DHCP & DNS
- Upgrade to version 4.2.1
- Continuous delivery process with TeamCity + SaltStack
- Migration of production environment to CloudStack
  - Normalization of IaaS so that our automation scripts can leverage both CloudStack and AWS
- PoC of KVM as a free alternative hypervisor to VMware
- CloudStack is not an all or nothing solution
Contacts

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Survey

• Please help us understand how companies are using clouds


• We will contribute back those results
Party!!

- **CloudOps and Solidfire** are pleased to invite you to a nice **FREE** Craft Beer Tasting!

- **Please Register at:** [http://bit.ly/1k9YBBn](http://bit.ly/1k9YBBn)