

## Summary

I've spent the last 15 years building and maintaining systems using Linux and Open Source. From managing financial analytics jobs run across thousands of cores in AWS, to architecting private clouds in OpenStack, troubleshooting performance issues, and even network security and forensics.

My life began in the operations/system administration world, but I recognized early on the necessity of applying software development processes to managing infrastructure. While my early days consisted primarily of using perl/ksh/bash to automate tasks, when I began working on larger systems

within AWS I delved deeper into Python, ipython, and the excellent boto library. Working with a team of software developers, led by a CTO who was passionate about reliability, idempotency (e.g. in configuration management), and minimizing local state I grew my development skillset significantly.

More recently, I've been working extensively with the (Python based) OpenStack project. This has offered the opportunity to become intimately familiar with a number of challenges that arise when deploying infrastructure software at scale.

## Experience

### Large U.S. Financial Services Customer (on behalf of Red Hat)

PHOENIX, AZ

#### Senior OpenStack Enterprise Architect

July '14 » Mar. '16

Assisted with major architectural redesign - moving from a proprietary VMware vCloud/vCAC environment to an Open Source model. The new architecture would be composed of OpenStack at the IaaS layer, OpenShift (Kubernetes/Docker/RHEL) for PaaS, and CloudForms for the automation and service catalog. My roles included:

- Leading the architecture and implementation of the OpenStack-based private cloud environment. The environment was split across multiple datacenters in multiple regions to support their globally distributed highly available architecture, as well as providing isolation amongst tiers (Dev/QA/etc).
- Assisted in designing workload migration tooling from VMware/VCAC including v2v and workflow
- Implemented a multi-type storage backend for (NAS/SAN/CEPH), with storage migration
- Provided assistance in performance tuning, optimization, and data backup
- Wrote internal Python tooling/scripts to assist in administrative tasks
- Provided training on Ansible (infrastructure systems) and Puppet (config management for workloads)
- Assisted automation team with integration with service catalog/lifecycle management requirements.
- Affinity/Anti-affinity/Storage tiering/etc
- Assisted in OSP5 (Icehouse) -> OSP7 (Kilo) migration

### Growing Financial Services Startup

NEW YORK, NY

#### Senior Linux Consultant

Feb. '10 » Feb. '14

Was brought into an early-stage startup to help build out their back-end infrastructure, using the newly launched 'Amazon Web Services'. The client —a provider of structured finance and investment analytics for the financial services industry —was running large (thousands of cores) analytics jobs using EC2. Some of the projects I worked on, included:

- Writing a number of administrative scripts in Boto to interact with various services (EC2, S3, simpledb, etc)
- Troubleshooting infrastructural issues with job scheduling (Boto, SQLite, APSW, simpledb)
- Helping design/build-out a Puppet configuration management system that worked with ephemeral instances
- Architecting the CI build system for Amazon machine image templates
- Using NetFilter/iptables/iproute2 for L5/L7 policy based routing
- Kerberos/OpenLDAP based authentication (later integrating Amazon IAM/Google SSO)

### Multiple customers on behalf of Red Hat

NEW YORK, NY

#### Linux Consultant

Feb. '08 » Feb. '10

Multiple engagement covering numerous subject matter areas, including:

- Health checks and performance tuning
- Infrastructure monitoring
- Config management

### BEA Systems, Inc. (Weblogic), now Oracle, Inc.

RENO, NV

#### Production Operations Engineer

Feb. '07 » Feb. '08

As a member of the production operations team, we were responsible for ensuring the availability of the customer-facing websites. This included network and systems troubleshooting, patching, and assisting with on-call rotation.

Skills utilized:

- Nagios
- RHEL3/4/5
- Solaris 8

Equity Lending Partners (formerly IntoHomes Mortgage Services)

RENO, NV

#### **System Administrator**

Dec. '05 » Mar. '07

Served as primary system administrator for mortgage broker/mortgage bank. Handled growth from a single location to 6 branches from Hawaii to Virginia. Skills utilized:

- Linux (Debian) for internal apps, monitoring, white box thin clients
- Cisco routing/site-to-site VPNs
- Windows Terminal Services (serving thin client infrastructure)

## **Education/Certifications**

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|--|-------------|
| Red Hat Certified Engineer (Red Hat Enterprise Linux 7)<br>EX300                   | 2016-04-01  |
| Red Hat Certified Engineer (Red Hat Enterprise Linux 7)<br>EX300                   | 2016-04-01  |
| Red Hat Certified System Administrator in Red Hat OpenStack<br>EX333               | 2016-01-24  |
| Red Hat OpenShift Enterprise Administration<br>DO280                               | 2015-12-16  |
| Red Hat Certificate of Expertise in Directory Services and Authentication<br>EX423 | 2008-07-18  |
| Red Hat Enterprise Security: Network Services Expertise<br>EX333                   | 2009-04-03  |
| Red Hat Certificate of Expertise in Performance Tuning<br>EX442                    | 2009-04-010 |
| Red Hat Certificate of Expertise in Clustering and Storage Management<br>EX436     | 2008-06-27  |
| Red Hat Certificate of Expertise in Deployment and Systems Management<br>EX401     | 2008-05-23  |
| Red Hat Certified Engineer (Red Hat Enterprise Linux 5)<br>EX300                   | 2008-03-14  |