

Lee Whalen

Seattle, WA

Email: hirelee@fuzzy-logic.org

Profile

Experienced Devops Leader and Engineer with strong automation, virtualization, and troubleshooting skills. Over 15 years supporting/building heterogenous Linux environments both large (1500+ servers), small (15), and everything in between. Equally effective in a team-oriented environment or as a lone specialist.

Technical Skills

OS/Virtualization: Linux (Debian, RedHat Enterprise, CentOS, and Ubuntu), FreeBSD, OpenBSD, Amazon EC2/VPC, Rackspace OpenStack, Docker, VMWare ESX 6.x, vCloud 1.x, Xen 3.4+

Networking: Architect and implement wired/wireless LAN/WANs, Remote-Access and Lan-To-Lan VPNs (Cisco and OpenVPN), Host-based failover with Linux High-Availability.

Hardware: Cisco ASA VPN (Remote Access and Lan-To-Lan), 3650/3750 switches, NX-OS, ASR 902, Nexus 9300, F5 BigIP and Citrix Netscaler Load-balancers, Aironet 1600 and Ubiquiti WAPs.

Enterprise technologies: Apache, Jetty, JBoss, CIFS, NFS, Nagios, Sensu, Graphite, Grafana, Collectd, OpenLDAP, grsec, Postfix, Courier-IMAP, Dovecot, Exim, SpamAssassin, Amavis, SVN, Git, rsync, rdiff-backup, Bacula, Puppet, Chef, Ansible, Salt, Aptly, Kubernetes

Programming: Linux shell scripting (bash), Ruby, Perl, some Python.

Employment History

Principal Devops Engineer/Founder Fuzzy Logic, Seattle, WA 12/13 - present

Founder of bespoke Devops consultancy. Led multiple large projects with teams of varying sizes for clients focused on extensive automation, cost analysis/reduction, and stability improvements, as detailed below:

Senior Devops Engineer (remote, contractor) Analog Analytics,
Portland, OR
24-month engagement

Administered, architected, and automated the US and UK portions of the Analog Analytics/Barclaycard offers portal. Managed the physical and virtual hosts for a popular daily-deals style website based on CentOS, Rails 3, Unicorn, Nginx, Chef, and Redis/Resque. Successfully introduced DevOps processes and culture to the 'waterfall'-based greater Barclays Bank IT department by demonstrating the benefit of conversion to modern DevOps methodologies in reducing risk, time-to-deploy, and increase in availability.

- Key team member in environment-wide migration from Rackspace fully-managed hardware to a private hosted Rackspace Private Cloud (OpenStack) environment, for a savings of over \$120k/mo in hosting fees.

- Key team member in developing a Vagrant-based full-environment provisioning process, allowing the DevOps team to spin up complex environments (15+ inter-dependent VMs requiring applied database dumps, software loads, and asset deploys) to the Rackspace Openstack Cloud with one command. Reduced a multi-day, highly manual process to two hours.
- Key team member in developing a Fog-Library based provisioning tool, allowing us to use the same code and JSON-based configuration files to deploy full environments independent of the cloud provider backend (currently running on Rackspace and AWS-based cloud environments).
- Wrote extensive and detailed documentation to reduce new DevOps teammates' onboarding time (measured by 'time to first commit or resolved issue') from 2+ weeks to 2 days.

Senior Devops Engineer/Team Lead (remote, contractor) ExecVision
 Arlington, VA
 6 month engagement

Optimized pre-existing AWS/Ansible deployment (80+ hosts, multiple interconnected VPCs across varying AZs) of the ExecVision Conversation Insights recording analysis and transcription platform. Recommended improvements in monitoring, measurement, and deploy policies that were instrumental in bringing an "appalling" monthly recurring AWS bill under control.

- Refactored existing Ansible-provisioned environment for greater deploy reliability, code readability, and speed. Reduced Ansible-based deploy times from ~6 runs and 2 hours per VM, to 2 runs and 20 minutes per.
- Introduced Sensu for monitoring, Collectd/Graphite/Grafana for metrics collection and display. Recurring outages stemming from lack of operational visibility were able to be predicted and proactively addressed or eliminated.
- Reduced monthly AWS bill by 35% with accurate usage data from above projects, and judicious application of AWS/cloud engineering good practices.
- Further reduced excess OpEx spend by migrating expensive under-performing 'cloud' services (GitHub, TravisCI, etc) to site-optimized self-hosted solutions (GitLab, GitLab-CI, etc).
- Introduced Docker-based CI for faster infrastructure and product testing.
- Key player in standardizing system configuration through automating the packaging of software/utilities and distribution via standard OS tools and a local package repository.

Senior Devops Engineer (remote, contractor) Locally.com
 New Orleans, LA
 6-month engagement

Initially brought on in an advisory role to make recommendations on systems management practices, evolved into an architectural role to re-design the Locally development and production environments, based on Debian Jessie, Laravel, Node.js, MySQL, and Elasticsearch.

- Used Puppet to bring configuration consistency across all hosts, turning a 4+ hour manual host deploy project into a 5 minute task.
- Deployed Sensu for monitoring/alerting and introduced good root-cause analysis practices, reducing the average outage length from 30+ minutes to 3. Issues could then be proactively addressed instead of surfaced to the systems team by users and other staff.
- Made recommendations on migrating self-hosted Elasticsearch to a hosted third-party system, saving \$1000s/mo in VM costs and hours/mo in developer/systems upkeep
- Designed a Vagrant-based development environment, allowing developers to spin up ad-hoc local systems matching production and used a fresh (harvested daily) sanitized database image based on Production. This reduced new developer onboarding time (measured in 'time to first commit') from 9+ days to same-day.

Senior Devops Engineer (remote, contractor) Evasyst.com

Irvine, CA

6-month engagement

Designed and built out a greenfield AWS VPC environment with multiple isolated subnets to support development and production efforts for the Evasyst collaborative video-chat and screen-sharing platform, based on Ubuntu, Node.js, TURN/Mumble-based VoIP software, and custom-compiled C++ code.

- Deployed Puppet configuration management for consistent host/network/ACL configuration across the environment
- Deployed Sensu for monitoring/alerting to keep abreast of critical systems issues that would hinder developer productivity or service availability
- Optimized pre-existing Jenkins jobs for end-to-end CI/CD coverage, speeding time to production and automating code quality checks to conserve developer time and velocity
- Used an API-driven Debian package repository daemon (Aptly) to deploy, serve and maintain company software projects in an OS package format for ease of auditing and speedy pre-compiled deployment.

Senior Devops Engineer/Team Lead (remote, contractor) IDenTV

San Francisco, CA

6 month engagement

Architected, fortified, and automated the US-spanning datacenter presence of the IDenTV Real-time Media Analytics platform. Built out and managed the on-premise private cloud infrastructure based on Ubuntu Linux, Openstack, Java, and Salt, and assorted assets in AWS and Digital Ocean as needed. Introduced and successfully integrated many aspects of DevOps process and culture to the development team, resulting in increased feature development, environmental stability, and faster resolution of problems as well as increased morale of the organization.

- Deployed Openstack Mitaka, with redundant controller nodes, to three separate sites to realize significant savings over a 3rd-party hosted Openstack provider (~\$10,000/mo).
- Key player in fully automating development, staging, and production environments with Salt.
- Optimized existing local multicast network configuration to reduce load/link saturation by ~90%.
- Migrated various 3rd-party services (DNS, monitoring, Git, package, and credentials hosting, etc) to reliable, redundant, locally-hosted solutions for a \$1100/mo OpEx savings.
- Wrote custom monitoring checks for a 3rd-party video-processing solution, querying the REST API for specific metrics and presenting it in a format suitable for historical graphing.
- Deployed/automated "Let's Encrypt" SSL certificates on multiple public hosts to maintain security best-practices while still realizing cost-savings.
- Deployed redundant Cisco ASA 5508-X firewall pairs at multiple sites, replacing underperforming SOHO firewalls for greater performance, manageability, etc.
- Renegotiated and consolidated support agreements for all network hardware, resulting in a 10% savings over previous ad-hoc contracts and increasing support coverage to 100%.
- Deployed a proof-of-concept ELK stack - Elasticsearch, Logstash, Kibana - tuned to process ~3GB of system logs per day

Senior Linux Systems Administrator *Enservio, Needham, MA* 11/11-12/13

Provided administration, architecting, and automation services in a primarily VMWare ESX 5.1 iSCSI/NFS environment for the premiere contents-valuation company servicing 90% of the US insurance carriers in a diverse production environment based on CentOS/Oracle Enterprise Linux, JBoss 4.2, MySQL Enterprise 5.5, Passenger 3, and various versions of Ruby On Rails.

- Led a corporate-wide migration from Windows to Linux servers for production/development applications.
- Introduced Puppet to speed server deployment/provisioning times from 2+ hours per VM to ~15 minutes.
- Migrated pre-existing standalone Amazon EC2 environment (Windows/Linux mix) to a homogenous, Amazon VPC environment (Linux). Designed a standardized Puppet/BIND/LDAP/NFS administration-network stack to allow for ease of management/provisioning, implemented Amazon's Elastic Load-Balancer product for increased service redundancy, and was able to reduce Amazon fees from \$10k/mo to \$2.3k/mo.
- Migrated multiple 'fully-managed' product offerings from externally-hosted providers to our main Production Linux/VMWare stack, for a savings of over \$15,000/mo in hosting charges, consultant fees, and licensing costs.
- Served as effective 'Linux subject matter expert' to immediate team (senior windows admin, senior and junior MySQL DBAs, junior linux admin) and engineering, preparing regular classes/lectures on command-line expertise, Puppet/basic automation principles, scripting, etc.

- Implemented ESX DRS and HA in three separate environments.
- Lead seamless upgrade from ESX 4.1 to 5.1 in two separate datacenters.
- Implemented RPM packaging for all main software deliverables, via both "spec" files and Engineering Maven integration.
- Introduced ELK-stack - Elasticsearch, Logstash, and Kibana - to centralize and index system logs. Tuned Elasticsearch/Logstash to support ~20GB of system logs per day.

Senior Linux Systems Administrator *Sermo, Cambridge, MA* 8/10-11/11

Supported all facets of Production and Development Xen environments (CentOS Linux 5.x, Apache, Passenger, MySQL) for the largest U.S. Ruby On Rails-based social networking site for healthcare professionals.

- Tuned pre-existing Puppet environment for performance, reducing initial run-times from 90 minutes to 10 minutes.
- Introduced Cobbler/DHCP to automate previous (highly manual) server provisioning process from 2 hours to 15 minutes, and allowed for VM self-provisioning to streamline Developer workflow.
- Implemented Rancid to provide backup and configuration roll-back capabilities to the Cisco-based (3560-class switches, ASA 5510 firewall/VPN) network.
- Reduced site load-time during peak traffic from ~20 seconds to ~5 seconds by implementing Memcached.
- Co-lead migration project from an older Xen-based virtualization environment to a remotely-hosted, private cloud-based HIPAA-compliant environment based on VMWare's vCloud platform.
- Created RPM-building environment for improved time-to-deploy speed.
- Lead conversion from Subversion to Git.

Senior Linux Systems Administrator *Mimecast, Newton, MA* 5/09-8/10

Built out and automated the US portion of Mimecast's global (US, UK, and South-African locations) email scanning/archiving solution. The environment involved managing internally-written Java-based MTA software, PostgreSQL databases, Apache Tomcat and JBoss application servers, running on HP Proliant hardware with CentOS Linux. These were spread out over four SAS 70 Type 2 datacenters - two in Massachusetts, one in Kansas City, and one in Pennsylvania.

- Designed and built a global internal DNS infrastructure with BIND.
- Implemented mass automated system deployment/administration with Systemimager, custom Perl/Ruby scripts, and Puppet.
- Deployed centralized syslog archiving to multi-tiered storage (MySQL database and local disk array) with rsyslog.
- Introduced VMWare ESXi into the administrative and production environments for cost- and space-saving server consolidation.

Senior Linux Systems Administrator *Endurance Int'l, Burlington, MA* 4/07-5/09

Administered and built out a production environment of over 1500 Debian Linux servers across two datacenters as part of a NetOps team of 4 in the third largest shared webhosting company in the US. General duties included care and feeding of several hundred Apache, Exim, and PowerDNS servers, scalable OpenLDAP implementation, heavy grsecurity policy development, light networking responsibilities with Foundry FastIron and HP Procurve switches, simple Debian package creation, some BigIP 8800 load-balancer management, as well as medium-to-large project design and implementation.

- Designed and built out a presence in a Tier-1 Boston-based datacenter to support an immediate doubling of growth (700 servers to 1500 servers), with the ability to easily extend to 2000+ over the next 3 years.
- Deployed Puppet across 1500 servers to automate complex system administration tasks.
- Lead the design and deployment of an entirely new product line and supporting environment, based on the Virtuozzo Virtual Private Server platform running CentOS 5. At the time of my departure, this was EIGs product with the highest profit/operating cost ratio.
- Migrated the previous global corporate IM infrastructure to an Openfire jabber server.
- Extended SISuite (systemimager) software with various custom Perl modules to achieve greater server provisioning speed and automation.

Additional roles before 2007 available upon request

Professional Associations

League of Professional Systems Administrators, 2009-present