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## SKILLS

**Operating Systems:** Linux (Slackware, Gentoo, Ubuntu, Debian, RedHat Enterprise, CentOS, CoreOS), FreeBSD, Windows (3.x/9x/ME/NT/2000/XP/2003), DOS, Mac OS (8/9/10)

**Programming Languages:** Perl, C, C++/Visual C++, Java, BASIC/Visual Basic, Python, PHP, Shell/Bash, Ruby, Go, Lua

### Software and services:

Network services: DHCP (ISC dhcpd and dnsmasq), DNS (BIND and dnsmasq), SMTP (postfix and qmail) and IMAP/POP3 (courier and dovecot), HTTP (apache w/ mod\_php, mod\_perl, mod\_ssl, lighttpd, squid, nginx), HAProxy, Tomcat, memcache, NFS, CIFS, iSCSI, LDAP (AD and OpenLDAP) and Radius (Freeradius), SNMP, CVS, SVN, Git

Monitoring/Security: Nagios/Icinga 1.x, Cacti, Zabbix, OSSEC

Server management: central configuration management, central authentication using pam\_ldap/nss\_ldap/nslcd with Active Directory and OpenLDAP

Clustering: Hadoop (HDFS and MapReduce), Zookeeper, etcd, Consul, Mesos/Marathon

Automation and Orchestration: Puppet, Ansible, Stackstorm, Terraform

Continuous integration: Jenkins

**Cloud services:** Amazon AWS (EC2, VPC, S3, RDS, ElastiCache, IAM, KMS, DynamoDB), Rackspace

**Networking:** 10/100/1000 ethernet switching, Wifi (802.11a/b/g/n), VLANs (802.1q), VPN (IPsec, PPTP, OpenVPN, Juniper SSL)

**Databases:** MySQL (with a focus on master-slave and multi-master replication models), PostgreSQL, Redis, MongoDB

**Virtualization, Emulation, and Containerization:** Xen, KVM, VMware ESXi, VirtualBox, Wine, Openstack (Havana, Icehouse, Ocata), Docker

## EXPERIENCE

### Contract DevOps Engineer, BitPusher, LLC (February 2017 to present)

- Designed and implemented customized Openstack Ocata deployment using openstack-ansible project and custom playbooks for host network configuration and post-build Openstack configuration
- Designed and implemented single git repo Terraform setup to manage multiple AWS accounts, multiple environments/stacks, and multiple pieces of stacks, utilizing S3/DynamoDB remote Terraform state

### Senior Operations Architect, Turn, Inc. (August 2014 to present)

- Designed and implemented multi-datacenter Consul cluster with 3500+ nodes
- Designed and implemented Docker-based replacement for BSD jail-based SFTP system, using Jenkins/Ansible for deployment
- Deployed Ansible across management nodes with custom dynamic inventory script that queries Foreman
- Created review/deploy pipeline for DNS changes using Jenkins and Ansible
- Designed and built Openstack clusters using Ceph storage backend
- Created HA private Docker registry system with access control
- Created automated build system for Docker images using Jenkins
- Designed and built HA Mesos/Marathon cluster with Consul and automatic HAProxy configuration
- Migrated from Nagios to Icinga and scaled from single instances to master/slave architecture
- Revamped internal DNS infrastructure, including git workflows and change review
- Implemented Stackstorm with custom hybrid auth and monitoring auto-remediation
- Rebuilt existing infrastructure with automated deployment, backups, and proper monitoring/metrics

### Principal Systems Engineer, Box (March 2011 to August 2014)

- Primary responsibility is fixing the things I considered "broken" in our environment (supervisor's words)
- Rearchitected various services for automated deployment and HA
- Played a major role in taking an "organic" environment to a highly scalable enterprise environment

- Rebuilt existing nagios system to integrate tightly with Puppet for automatic monitoring configuration
- Collaborated closely with engineers to track down various issues causing segfaults and performance degradations in our environment
- Redesigned DNS system to use a series of master and slaves with distribution via git
- Scaled a single-master Puppet system to 20 masters across multiple environments using nginx/unicorn
- Instituted change management process using git and Puppet, added validation and automated problem reporting
- Scaled OpenLDAP across multiple datacenters with two-way replication (limited) using syncrepl
- Led a large-scale migration from CentOS 5.x to Scientific Linux 6.2
- Created patch/package management procedures and distributed yum repositories across DCs with change reporting
- Architected and implemented automated server provisioning using kickstart/cobbler and Puppet
- Extended Puppet for non-standard functions using custom facts, parser functions, and providers
- Rearchitected internal git system to be distributed and fully redundant using gitosis
- Designed and implemented a "bastion" server (SSH and squid) to tightly control access to production environment based on LDAP role group membership
- Created system to allow external servers (in EC2 and small remote POPs) to be managed securely by internal infrastructure (Puppet, Splunk, OpenTSDB, nagios, etc.)

#### **Senior System Administrator**, Announce Media (May 2010 to March 2011)

- Primary responsibility is general system administration with a focus on MySQL Database administration
- Implemented Puppet to manage all of our existing servers and automate the build/configuration of new servers. All server types were fully defined in Puppet, so that a newly built server could be up and ready for production within 30 minutes of OS installation
- Implemented LDAP authentication against an existing Active Directory setup
- Implemented an automatic sync between AD and OpenLDAP and transitioned to OpenLDAP for auth
- Manage MySQL replication topology, backup, and administration
- Created an automatic LDAP to MySQL password synchronization process
- Implemented nagios and integrated with Puppet for automatic monitoring of servers known to Puppet
- Built and maintain multiple Hadoop clusters configured for MapReduce and HBase

#### **Support Engineer II**, Announce Media (August 2009 to May 2010)

- Tracked down and fixed bugs discovered in production code
- Perform on-call duties, which involves responding to alerts from the monitoring system and resolving the issue

#### **Senior Linux System Administrator**, Broadstripe (December 2008 to August 2009)

- General system administration on CentOS, Debian, and Ubuntu servers
- Implemented Puppet for configuration management
- Implemented AD authentication for centralized authentication and access control
- Created DNS cluster for ISP customers and hosting of company-owned domains
- Eliminated wasteful server usage by consolidating functionality and using virtualization
- Setup nagios and cacti in order to monitor servers and services
- Used perl, python, and shell scripting to automate various system administration tasks
- Maintained an existing Active Directory setup, including performing multiple failed server recoveries and massive cleanup of existing infrastructure
- Designed, implemented, tested, and debugged customer-facing websites with transactional abilities and scripts to process data

#### **Senior System and Network Administrator**, Creative Communications (February 2005 to October 2008)

- Designed, implemented, tested, and debugged web-based applications for product ordering/payment, internal inventory management (purchase orders, invoicing, etc.), and internal accounting
- Responsible for Linux server administration including hardware setup, OS installation, server setup/configuration, firewall/router/gateway design/implementation, software upgrades, security updates, and user management

#### **Linux Administrator**, Primary Care Computing, LLC (January 2004 to January 2005)

- Responsible for troubleshooting and repairing hardware, network, and software/operating system related problems for x86-based machines running DOS, Windows, and Linux
- General Linux server administration including hardware setup, OS installation, server setup/configuration, firewall/router/gateway design/implementation, software upgrades, security updates, and user management
- Designed web-based database-driven applications

#### **Senior Systems Administrator**, Skyline Aeronautics, LLC (October 2001 to August 2005)

- Responsible for server administration including hardware setup, OS installation, server setup/configuration, firewall/network design/implementation including DHCP and DNS (bind and dnsmasq), software upgrades, and security updates
- Implemented an e-mail system consisting of SMTP (qmail), POP3, IMAP, and web-based mail for employees
- Designed, built, and maintained a web portal for customers to schedule aircraft and instructors for flight training
- Designed and implemented a Windows NT style domain utilizing Samba 3.0 to take advantage of centralized network logons, roaming profiles, and policies for the publicly accessible computers
- Responsible for troubleshooting hardware, software, and network problems

## **OPEN SOURCE**

### **Ansible**

- Code contributor ("actionable" stdout callback plugin, loop item labels, "piped" SSH transfer method, "openwrt\_init" module, various docs fixes)
- Active community member (answering questions in the #ansible IRC channel on Freenode)

### **Gentoo Linux**

Release Engineering Lead (March 2008 to 2012)

- Coordinated the building of Gentoo release media, including stage tarballs, minimal CDs, and Live CD/DVDs
- Implemented the autobuild system (a fresh set of install media for multiple architectures is automatically built, signed, and uploaded to the mirrors on a weekly basis)

Developer (November 2004 to March 2008)

- Developed the Gentoo Linux Installer
- Created numerous enhancements and bug fixes for Gentoo's catalyst and genkernel tools
- Developed the Quickstart utility for doing automated Gentoo installations on multiple architectures (x86, x86\_64, hppa, and sparc)