Stuart Abrams-Humphries

Linux Systems Engineer

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Linux Systems Engineer. Over 20 years' experience in a wide variety of environments from small trading firms with fewer than 100 servers to large banks with tens of thousands of servers. Experience in designing, implementing, and maintaining Unix/Linux-based systems. Proven ability to troubleshoot complex problems and deliver high-quality solutions. - Managed large Linux infrastructures of 1000+ servers, ensuring maximum uptime. - Successfully deployed multiple applications to production environments using ansible/puppet/saltstack - Developed and implemented security policies and procedures to protect Linux systems from cyberattacks, ensured compliance with standards. - Collaborated with other engineers to troubleshoot and resolve complex technical issues and performance problems. - Mentored and trained junior engineers on Linux administration best practices. Seeking a challenging position as a Unix/Linux Engineer where I can use my skills and experience to make a positive impact.

Key Skills

- Linux Admin (RHEL/Ubuntu/CentOS/Debian), Kickstart, Foreman, SpaceWalk, monitoring (Sensu, Uchiwa, Prometheus, Reimann, splunk), performance tuning, networking (specifically Arista and Juniper), TCP/IP,DNS, DHCP, Kernel bypass technologies (Solarflare (onload), Mellanox(vma)), time sync (ntp/ptp), rpm and deb creation, yum and apt repo creation, zfs, ext, gpfs, ceph, univa grid engine
- Solaris Admin, originally worked on SunOS 4.1.4, migrated to Solaris 2.3, used Solaris 5,7,9 and 11. Experience over a wide range of Sun and Oracle hardware.
- Python, Bash, Perl
- Ansible, Puppet, Saltstack
- Gitlab, GitHub, Bitbucket
- TravisCI, Github actions, Jenkins, SemaphoreCI, CirclCI

- AWS (EC2, IAM, ELB, EBS, EFS, RDS, Route53, S3, VPC, CloudFront, Lambda, CloudWatch, CloudTrail)
- Continuous Delivery/Continuous Integration
- Docker, K8
- Terraform, cloudformation

Previous Experience

10/2022 – 8/2023 Digital Ventures Ltd

Working on several high activity websites (over 1.5 billion views per year). Supporting day to day issues, but also involved in projects such as replicating dev/prod environments onto developers linux/mac desktops using multiple docker containers, also duplicating clustered mysql environments using k8 on dev desktops. Multiple rollouts of code using travis ci, github actions and an initial evaluation of Azure pipelines. Testing of Debezium (Kafka) environment for datawharehouse project. Environment was hybrid AWS and also large use of Exoscale environments to run several hundred docker containers. Additionally used cloudflare, haproxy, F5, NewRelic. Use ansible for configuration management and terraform for building infrastructure.

7/2021 – 9/2022 PA Consulting

Created a new AWS environment for NIHR via PA Consulting. Designed standards and environment from scratch (EC2, IAM, ELB, EBS, EFS, Aurora RDS, Route53, S3, VPC, Lambda, API Gateway, CloudWatch, CloudTrail, EKS, Fargate, Terraform, cloudformation). Implemented multiple environments for developers - extensive use of Terraform to create automated rollout of environments. Structure of environments involved API gateway, talking to Kafka (MSK). Implemented CI/CD using GitHub Actions, using automated testing and integration with SonarCloud. Enabled automated security monitoring. Configured monitoring systems (cloudwatch/cloudtrail/Prometheus/Grafana. Created custom AMIs using packer, initially using Ubuntu 1804 but then migrating to Amazon Linux 2.0. Integrated systems into Jira, Github, Slack. Optimised environments for cost efficiancy.

4/2021 – 7/2021 Accredible

Implementation of CI/CD systems, integrating GitHub, Semaphore CI to provide automated testing and deployments. Implemented infrastructure as code using terraform – existing AWS environment had been manually configured over several years. Enabled automated builds and deployments, improving time to market of code. Built Kubernetes cluster to assist with automated testing and release of code, enabling testers and developers to easily and quickly spin up new environments. Implemented a blue-green deployment approach. Configured microservices for testing and deployment in Docker containers Day to day support of AWS services, Route53,

IAM, EC2, S3, RDS, Security Created a DR site outside of AWS that contained regular backups of code, also regular database dumps Documented environment and provided tuition to other technical members of the team.

11/2020 - 4/2021 Morgan Stanley

Worked in Alchemy project, assisting migration of tens of thousands of servers from older RHEL and Solaris builds to newer (RHEL 7/8) builds on updated hardware and virtualised environments. Assisted in development work to automate the migrations using ansible and also creating pipelines in Jenkins to assist in automation of weekend migrations. Python scripting to simplify workflows and automated decommissioning of hardware.

2/2020 – 11/2020 Gobsmack

Responsible for the migration of the AWS environment from an external provider to in-house. Created Gobsmacks Linux Systems function. All aspects of Infrastructure, including standard builds (for Ubuntu and Centos), security hardening (credit card compliance (PCI DSS)), implemented monitoring using pagerduty, cloudwatch, implementation of CI/CD using Jenkins, bitbucket, GitLab, implemented configuration management using ansible. Added secrets/sensitive data to Hashicorp Vault. Automated build of environment using Terraform.

1/2019 – 1/2020 Quadrature Capital

Working on a project to assist migration of legacy configuration management code in Puppet to Salt stack, additional project involved upgrade of main trading servers in several co-los to Ubuntu 1804 and Pacemaker (multiple three node clusters with drbd). Used opportunity to automate configuration of Gitlab and Gitlab runners, also building a highly available remote access solution. Additionally, providing an automated test environment using Docker containers to ensure new code passes at least some basic tests.

12/2017 – 12/2018 Home Office

At the Home Office I was responsible for a project to move critical Oracle database servers from an external supplier to AWS. I also built out a new environment in AWS in London (new build from scratch replicating existing environment in Dublin). All AWS configuration was written using Terraform. For the external security testers, I provided a basic K8 environment with bespoke Docker containers to provide isolated environments for penetration testing, additionally secured passwords and keys in Hashicorp vault.

8/2017 – 12/2017 PICO Quantitative Trading

My work involved designing time synchronisation systems that complied with RTS25 standards for financial trading clients. In depth work involved system builds, automation using Ansible and bash/python scripts. Additionally, for long term reporting purposes I built a data collection service in AWS, initially populated by using Amazon Snowball, but then syncing from over 20 remote datacentres to various S3, and automating older data to move to Amazon Glacier.

12/2016 – 8/2017 HSBC

I was brought in to HSBC to work on a project in the FX pricing team to enable the support work to be offshored to China. To do this work I automated multiple processes and builds to Puppet. Additionally, I configured RunDeck to integrate with the HSBC change management system so that operators could perform approved ad-hoc tasks which I automated using python and bash. Used TeamCity to test/rollout builds.

4/2016 – 12/2016 DWP

At the DWP I was responsible as part of a team for the migration of the systems (140 different Java based microservices) from multiple VMware instances to AWS. AWS configuration was initially done using CloudFormation, however we migrated to using Terraform as environment grew. My initial project work involved moving away from Jenkins/GitHub on physical servers to Docker swarm on AWS, additionally I configured Jenkins to use the AWS EC2 plugin to use larger Amazon instances for some of the bigger testing that needed doing.

2/2016 – 4/2016 RKR Epsilon

Completely Greenfield site (Prop trading start-up), responsible for install and configuration of entire infrastructure from scratch. I chose Ansible for configuration management of our physical servers as a relatively small, simple environment. I worked alongside developers and quants to ensure automated build/test and deployment of code to trading environment, for this I installed and configured the Atlassian tool suite as management wanted products they could go to for paid support. I installed and configured a continuous integration system– from check-in of code in git, testing in Docker containers and rpm build and release to servers. I also implemented basic Agile environment. For main non trading infrastructure we used Google Cloud and associated email, documents.

9/2014 – 1/2016 Worldpay

Large scale migration of applications from RBS legacy hardware to Worldpay new systems. Started with 10s of Red Hat servers – on leaving we had in excess of 4000 nodes built and managed. Initial migration was primarily to VMWare instances, however we influenced Worldpay to move to AWS environment – then started migration to AWS. This allowed large cost savings as we were able to use servers on demand and shutdown out of hours when not being used by development teams.

6/2013 – 9/2014 Jump Trading

First in-depth exposure to Linux Systems – large environment of over 3000 servers, all automated using Puppet, Phabricator, GIT. Sat with Developers (Quants) and assisted with day-to-day issues. Primary projects involved migration from Ubuntu to RHEL 7. Small evaluation of AWS for our HPC grid, however this was abandoned after initial testing due to poor (relative) performance of disk i/o at the time with AWS compared to a dedicated clustered filesystem.

11/2010 – 6/2013 Deutsche Bank

Prototyped and piloting of all new technology in low latency trading. Focus on exotic products

and solutions. Solaris 10/11 performance comparisons with Linux on x86 hardware. Introduction to engineering environment of Linux Systems. Puppet and cfengine comparison, roll out of puppet to environment (engineering). Created custom time sync solution – better than 50ns. Engineered and supported Solaris to Red Hat migrations and SuSE to Red Hat migration.

Education and Certifications

Physics, BSc, 2:1
University of Nottingham

Physics, PhD, unwritten
Liverpool University

RHCE
RedHat

Sun Certified Systems Administrator
Sun Microsystems

Sun Certified Network Administrator
Sun Microsystems

Puppet Certified Administrator
Puppet Labs

AWS Certified Cloud Practitioner
AWS