

Curriculum Vitae

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Nationality: British

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Experience

I have broad exposure in enterprise computing with more than 20 years of practical experience. I excel at designing and building platforms for technical teams to run their service or workload. I have worked across a range of sectors including: financial services, media, research, HPC and education.

Skill set

- Strong troubleshooting with practical methodology and a broad understanding of the interoperability of components of software and hardware.
- Experience in the system full life cycle from discovery to gathering requirements to delivery to decommission.
- I have worked alongside many roles within organisations, customers and suppliers.
- I have an appreciation of business and customer/end-user needs required to strike the right balance when present suitable technical solutions.
- Appreciation of agile delivery process, working in support of development and QA teams.
- Extensive experience of Linux operating systems and a solid foundation in the Microsoft server environment.
- Web service technologies HTTP, SSL, API, DNS, layer7+4 load-balancing, Proxies/gateways, CDN.
- IaaS components: Git, Terraform, Ansible, Chef, Cloud-init, Docker/Podman, Kubernetes, LXC, ARM Templates, XCAT, packer, kickstart.
- Cloud platforms: AWS, GCP, Azure, Hetzner, Rackspace, vCloud Air.
- Virtualization: VMWare, Proxmox, Openstack, Cloudstack, KVM/Libvirt.
- Python, Bash, a little Powershell, a little Go.
- Storage: S3/Swift, Netapp, EMC, Ceph, GPFS, scripting/Ansible for storage provisioning via API.
- Networking with a clear understanding of TCP/IP to degree level. Analysis of TCP dumps, load-balancer and firewall configuration, troubleshooting general connectivity. More experience with switching vs routing; Ethernet, VLAN, LACP, Infiniband/RDMA, Cumulus Linux.

Career History:

OCF PLC. (transfer to OCF LTD. Under MBO)
Sept 2019 – Present

Home/Sheffield
Cloud engineer

I work typically as the sole engineer on a project basis in a small consultancy well known in the High Performance Compute sector. My projects are generally outside of the core business technical skill set, intended to maintain relationships with customers, satisfy dependencies leading to HPC/Storage deployments, retain and document skill-sets lost by staff attrition and engage in new potential revenue streams. The role often consists of skills transfer as cloud tooling filters into the on-premises world. Project examples follow.

Redhat Cloudforms Primary/Secondary deployment and configuration of Cloudforms to build a catalogue of self service items using Azure and Ansible, including; add users to AD groups, provision Netapp SAMBA shares + ACL, provision GPFS SAMBA shares + ACL and deploy end-user owned Azure Instances of various size/GPU and OS, achieved with parametrised arm templates and Cloud-init deployed scripts to join AD and install licensed Corp./research software from private blobs. The project was framed as an infinite hypervisor.

Kola Ansible Openstack POC Working with the Openstack engineer to build several configurations of clusters to answer a bid questionnaire geared to operate large Openstack deployment with source control in a managed services model.

Bright Computing IPMI power metrics Write Python metric collector to query data centre PDU SMTP data and push to Bright and graph/correlate.

iRODS Attend training, write staff example documentation, assist with bash post scripts to automatically add metadata to generated research data, write a batch Python job to query SMB file shares and archive data to iRODS and tag metadata, driven from a self generated editable TOML config file.

IBM Spectrum Discover Build single node VMware instance to host an 'edited' Spectrum Discover appliance image to use pass-through Infiniband adapter accessing a petabyte of cancer research imaging data generated via a Nvidia DGX, document automatic metadata tagging and query language examples.

VMware cluster With DR node using site-site async replication with Lenovo DS2000/DS4000 storage.

RHEL Openshift POC Following customer requests for assistance with Kubernetes multi-tenancy and storage, a short project was undertaken to understand the missing components to make on-premises Kubernetes function as if it has the supporting cloud services. A design pattern will likely require Ingress with a BGP solution, API driven DNS service such as PowerDNS, ACME certificate provision / local CA and Rook.

Flusurvey POC GKE Helm deployment of a micro-services based web application to track flu symptoms.

50 node RHEL Openstack cluster with tiered Ceph storage across 100Gbps Cumulus switches build / upgrade / train and document for future bare-metal deployments.

Core HPC deployment stack move from Saltstack to Ansible Unify the various engineer modified deployments into standardised Ansible roles, working with an HPC engineer to build the execution and deployment framework. My contributions were to pull an inventory from the XCAT API, create a role execution and variable layout scheme (site based parameters to merge or override), assist as a technical reference and rewrite some service roles which were more discovery based or end-user customisable in nature ex: metric-exporters/Prometheus/Grafana container stack, Firewallld by node class and storage consumer vs producer.

Picsolve International (dissolved)
June 2017 – May 2019

Derby
DevOps Engineer

I joined a team assembled to build and implement the next generation of the flagship product to deliver digital and print photography for a global portfolio of theme parks and attractions. I worked in an agile framework of sprints, increments and epics, in support of the developer and QA teams. The platform was micro-services based in AWS and IaC driven by CI/CD.

The technology underpinning the stack consisted of; Git, Bitbucket, Jenkins, Maven, Nexus, AWS (IAM, VPC, ELB, R53, RDS, S3), Terraform, Packer, Docker, Chef, Vagrant, Ansible, Etc, Nginx, Kong, Postgres, Mongo, Rabbitmq, Logspout, Logstash, Elasticsearch, Zabbix, Grafana, Pagerduty, Jira, Confluence. The development stack was Kubernetes(KOPS) with the intention of moving the CI/QA/Staging environments before the platform could be reimaged in AWS lambda.

Working at Picsolve greatly expanded my knowledge of DevOps tooling, web protocols, API's, automation and interconnecting dynamically provisioned services, this gave me a greater understanding of design issues I had encountered in previous roles and a new mindset for building systems and workflows.

My biggest contribution was to automate, aggregate and categorise/cross-reference multiple log and metric sources and present via Kibana and Grafana with pre-baked queries for developer debug and a suite of ops/management dashboards and alerts.

Learn Direct (tupe to Trustmarque, buyout Capita)
October 2015 – June 2017

Sheffield
Infrastructure Engineer
Infrastructure Architect

I worked in a managed services model supporting the hardware to app stack, necessitating ITIL accreditation. I primarily undertook Linux sysadmin and storage admin duties whilst assisting the app stack team with connectivity issues relating to the ingress of web traffic through various CDN, load-balancers, reverse proxies and URI schemes, care taking all key and certificate admin.

Projects where I worked as the principle engineer included design to delivery of a replacement Oracle database platform and evaluation of Veeam, VDP and EMC DD backup solutions on a cost to functionality basis. Projects included gathering requirements, testing, provisioning the platform components, authoring the network segregation and designing the security permissions model.

Working for Trustmarque, project work focused on discovery and documentation of the many services that had been lost through the attrition of staff, in support of defining various service catalogues and service level agreements to aide the transition of production services into the Trustmarque support model.

Trustmarque afforded me the opportunity to work as an infrastructure architect where I consolidated and migrated services from three data centres and cloud to various VM and storage platforms, maintaining service interconnectivity with a new web ingress model. In this role I was able to lead technical planning phases designed to achieve programme vectors of managing operational cost and service availability, I was introduced to the processes of capacity planning, resource scheduling and risk profiling.

Mint Payments
April 2014 – October 2015

Home/London/Sydney
Infrastructure Engineer

In my role as the sole Infrastructure Engineer, I was challenged with replacing the existing production environment with a new design to meet PCI 3 standards, introduce a high availability/DR capabilities and stay within budget using Rackspace as the Cloud provider. The design leveraged cloud load balancers and reverse web proxy to replace F5 devices for cost saving and blue green deployments.

I moved the application stack from Windows/Jboss/IIS to Linux/Jetty/Nginx, with a standardized anatomy to aide software deployments with the aim to facilitating configuration management tools.

Other responsibilities included HSM key management, scripting a managed file service for event and time based batch file exchange for encrypted customer transaction data, IDS monitoring using OSSEC, various SSL/IPSEC VPN solutions between sites/Cloud, management of monthly Alertlogic vulnerability scan remediation, implementation of monitoring in ELK stack collecting JMX, Zabbix and Syslog with alerting from Pingdom and Pagerduty. As the Infrastructure matured my role transitioned to app engineer, responsible for bi weekly deployments and more of an active role in the development and QA teams and daily scrums.

Transaction Network services (buyout Cirros USA)
July 2007 – April 2014

Sheffield
Snr. Sys Admin
(UNIX team)

My role as Global Systems Sysadmin placed me in the payments, billing and infrastructure areas of the company. Primarily I was responsible for the design and maintenance of the SOX billing and PCI payment platforms, consisting of payment gateways, monitoring, managed file services, accounting/billing and Netapp storage.

Commsxl Limited (buyout TNS Sheffield)
Dec 2004 – July 2007

London
Sys Admin

My role was to support all departments in a small company, from field engineers to the payment gateway developers. My initial role was office centric but progressed as a payment gateway engineer. I greatly appreciated the scope and responsibility of the role and became instrumental in second iteration of the service to meet the first draft of PCI to be the second company in the UK to achieve PCI accreditation.

Education:

Sheffield Hallam University
Sept 1999 – Jun 2003

City Campus, Howard Street, Sheffield
2:1 BA Hons Network + Comms

Mackworth College
Sept 1998 – Jun 1999

Prince Charles Avenue, Derby
4 A-levels

Wisbech Grammar School.
Sept 1991 – Jun 1998

North Brink, Wisbech, Cambridgeshire.
9 GCSE's

References:

Available on request