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AUSTRALIA

**Linux·Utility (AWS, GCP, etc.) / On Premesis and DC Mgmt (Bare Metal, K8S, etc.)·SecEng (Red/Blue)  
Version Control Sys. (Git, etc.)·DevSecOps (Polyglot. Shell, C/++, Ruby, Python, Haskell, Alloy, etc.)  
Config as Code (Chef, etc.)·Physical/Logical Net Design/Ops·Remote/Hybrid·Extd. On-Call**

## Industry Experience

### Tlon Corporation

*Sydney, NSW, AU (Remote)*

Mar 2023 to Oct 2023

#### Senior Systems Engineer

(geographic based reorg / redundancy)

- Full-stack systems and software engineering utilising Google Cloud Platform and Google Kubernetes Engine deployments via Terraform/Cloud, GitHub Actions, bespoke Haskell-based Tooling for Observability (OpenTracing/Honeycomb), Maintenance, and K8S Operator/s, etc.
- Engineering of systems platform software, including code review, CI, and development of system resource/performance reqs and agile deployment (GCP/GKE) for Urbit/Vere runtime system (C-based system/interpreter for UrbitOS/Arvo, a custom OS w/ Hoon lang. apps running on the Nock Virtual Machine) which implements a distributed computer/overlay network using Ethereum for name alloc.
- Reporting, analysis, remediation and coordination with security functions within the organisation regarding all aspects including endpoint, control plane, networks, testing, and production contexts
- Incident response, management, and after-event analysis and engineering response/remediation, including regular on-call duties and execution of maintenance windows at all hours (PagerDuty)
- Performance analysis, debugging and troubleshooting of hosted/customer facing instances of the Vere Urbit virtual machine runtime using dynamic runtime inspection techniques (perf, etc.) in Google Compute Platform/Google Kubernetes Engine
- Engineering/Development of big data storage, analysis, and content distribution network platform
- Direct end-user engineering support (multiple channels)

### Akuna Capital

*Sydney, NSW, AU*

Nov 2022 to Jan 2023

#### Senior Systems Engineer

(redundancy)

- Full-scope systems and network engineering, and data centre operations/design/deployment for nanosecond sensitive systems and networks across numerous global points of presence each effectively managed by multiple overlapping teams
- Development of software, including code review, CI, and development of system requirements, related to automation of operational duties (utilising ansible, etc.); including groupware oriented coordination between individuals and teams and systems interfaces (e.g. ChatOps) across multiple system configurations and contexts
- Reporting, analysis, remediation and coordination with security functions within the organisation regarding all aspects including endpoint, control plane, networks, testing, and production contexts
- Incident response, management, and after-event analysis and engineering response/remediation, including regular on-call duties and execution of maintenance windows out-of-hours (nights/weekends)
- Coordination and management of project work related to duties employing agile planning methodologies
- Efficient collaboration with multiple global teams and external parties including all aspects of duties and tasks ensuring continuous informed availability of responsible parties for incident routing/resolution
- Performance troubleshooting and analysis in relation to and across aspects of the Linux kernel and its resource scheduling, proprietary kernel modules, hardware configuration and state (including malfunction and unexpected state), and userspace application interactions
- Preparation and evaluation of capacity plans and equipment specification and deployment planning for that equipment and/or resources in order to execute on those capacity plans
- Presentations to colleagues, in formal settings, regarding project work architecture, engineering requirements, and implementation details

**Commonwealth Bank of Australia** *Sydney, NSW, AU*

Nov 2021 to Nov 2022

## Senior Systems Engineer

Nov 2015 to Dec 2020

- Full-scope Systems Engineering and Data Centre Operations for a mission critical, single millisecond latency sensitive Ceph-based multi-tiered Distributed Storage System of at least three sites, twelve-hundred nodes, and a calico-controlled BGP-routed unified data plane. Lead on zero-downtime multi-major-version upgrade and capacity expansion of same. Automation with Scala, Python, Puppet, etc.
- Systems Architecture, Engineering, and Implementation team lead for Container/Kubernetes platform software supply chain assurance system, including manual attestation support, Python/Flask-based APIs, and a cryptographic scanning and validation workflow engine (PostgreSQL and Oracle RAC datastores) deployed and managed by itself on a on-prem kubernetes-powered platform. This includes formal validation of correctness of key components using the Alloy formal modelling tool and strongly typed config with Dhall.
- Full-scope Systems Engineering and Data Centre Operations for a mission critical Hadoop-based Data Analysis and Machine Learning platform responsible for delivering Tier 1 workloads and data sets used throughout the group. Additionally, lead on a cross-major-version zero-downtime upgrade project of same.
- Driving cross-team/cross-org collaboration and reporting on socio-technical matters including, but not limited to, product requirements gathering, risk analysis, capacity planning, workload transition from on-prem operations to cloud-based/utility computing services, systems security analysis, and incident response command/on-call rotations for the above listed projects. Semantic documentation and ontology frameworks enabling expert systems using OWL/RDF, integrated pandoc, markdown, and LaTeX pipelines with CI/CD publishing.

**Stealth-mode Startup** *Sydney, NSW, AU*

Dec 2020 to Nov 2021

**Infrastructury** *Sydney, NSW, AU*

June 2014 to Current

## Founder, CEO, Principal Engineer

- Fly-in/fly-out on-site work as well as remote collaboration and production with long-term/short-term/hourly rates available
- Cloud systems design, implementation and troubleshooting (AWS, Rackspace Cloud, Google Compute Engine, et al.)
- Cloud security best practice and policy evaluation and implementation
- Automation technology implementation (Opscode Chef, Hashicorp Terraform, et al.)
- Bespoke software systems design, development and deployment (Ruby (Rails) and JavaScript (Node.js and Client-side) preferred, complex polyglot systems a specialty)
- Software delivery systems analysis and troubleshooting (Source control methodology, Team workflows, Software delivery planning)
- General systems administration and emergency on-call response duties

**Ripple Labs** *San Francisco, CA, US*

October 2013 to June 2014

## Head of Technical Operations

- Developing and deploying best practices for production and development environments.
- Building first class systems to help improve the flow of work inside and around Ripple Labs.
- Designing and deploying systems and resources while enabling developers to own their product from end to end.
- Managing resources and tasks with a team of equals.

**Mavenlink***San Francisco, CA, US*

November 2012 to October 2013

## Director of Technical Operations

- Leading and learning : Embedding operational knowledge throughout the organisation by example and modifying operations practices according to business requirements.
- Streamlining, evolving, building and rebuilding : Elegant infrastructure to support production services and streamlined development.
- Designing, deploying and maintaining : IT services (Hardware, Ethernet Networking, IP and VoIP) organisation wide in multiple office locations.
- Fixing, repairing and returning to production operation : Broken systems, processes, and service delivery 24/7/365 by whatever means necessary.
- Enabling, bridging, communicating and educating : Engineering and the wider business organisation with the software delivery system and interface that is Operations.

**Zendesk***San Francisco, CA, US*

Aug 2012 to Nov 2012

## Senior Devops Engineer

- Streamlining, evolving, building, and rebuilding : Elegant infrastructure emphasising real business value.
- Fixing, repairing, and returning to operation : Broken systems, processes, and service delivery 24/7/365 by whatever means necessary.
- Enabling, bridging, communicating, and educating : Engineering and the wider business organisation with the software delivery system and interface that is Operations.

**Votizen***San Francisco, CA, US*

March 2012 to July 2012

## Engineer

- Deployment and management of many servers via script and chef, utilising cloud providers as a direct substrate for implementation
- Designing, implementing, and maintaining overall operational systems architecture, operational interface, and development environments
- Guiding engineering technology focus on a project to project basis to ensure proper operational capacity and correct application architecture requirements from design through to production and maintenance
- Being On-Call 24/7/365 in a maintenance and proactive response role to ensure operational continuity and access to critical infrastructure knowledge

**3Crowd Tech.***San Mateo, CA, US*

December 2009 to July 2012

## Systems Engineer

- Deploying and managing many servers utilising both traditional and cloud oriented providers (for example, Amazon EC2) with the Chef platform configuration system from first light, through initial technology development, and into production and maintenance
- Integrating, packaging, and deploying both third-party code and internal code, often modifying third-party code when needed to meet internal needs
- Guiding engineering technology focus from first light to ensure proper operational capacity and correct application requirements and technology match through to production and development
- Being On-Call 24/7/365 to ensure operational continuity

**Social Media**

San Francisco, CA, US

January 2009 to December 2009

*Operations and Systems Engineer*

- Maintaining and managing approximately 80 revenue generating servers in multiple facilities
- Deploying software services such as Apache, MySQL database clusters, and MemcacheD in a high availability configuration using load balancers and autorollover scripts where appropriate to ensure continuity of service
- Pushing all configuration management into Chef to allow for rapid roll-out of new infrastructure
- Converting existing data warehouse and statistical data store engines from an 4x2 MySQL cluster to an HBase and MapReduce based system for efficient real-time and historical analysis of new and existing data
- Being On-Call 24/7/365 to ensure operational continuity

**Wikia**

San Francisco, CA, US

October 2007 to December 2008

*Community Team Member*

- Communicating with user community to ensure software meets community needs. When it did not, my responsibility was either modifying in place or submitting new specifications to product development and engineering groups
- Data mining and information extraction from large amounts of plain text to gather statistics about user activity in order to focus attention on communities most in need
- Debugging diverse third-party amateur JavaScript, CSS, HTML, and WikiMarkup to find and remove display and behavioural problems
- Serving as operations liaison for user community and community team in order to keep user community informed during site outages when they occurred

## Education

**Bachelors of Science** *incomplete*

2006

**University of Iowa**

Iowa City, IA, US

*Computer Science, focus in Graphics and Network Computing**Mathematics***Associates of Science**

2003 to 2005

**Northwest Missouri State University**

Maryville, MO, US

*General Education, MASMOC*

**United States Citizen**  
**Australian Permanent Work Rights**