Gerald Spencer

Multi-dimensional engineering leader passionate about:
Automation, CI/CD, Community Building, Devops, Kubernetes and GoNetworking
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Education

BSc, Mechanical Engineering W/ USCG License

- *California Maritime Academy (Vallejo, CA)*
- *Licensed United State Coast Guard 3rd Assistant Engineer*

Experience

2022 - Present **Cruise - Senior Site Reliability Enginner II**

Scaling the Fleet Product team's services vertically, horizontally and across regions to support Cruise's commericalization plan as autonomous vehicle fleets are rolled out to new geographic regions.

2021 - 2022 **Skydio - Engineering Manager - Infrastructure/Site Reliability**

Leading a small team architecting, designing and operating the infrastructure and processes required to support Skydio's enterprise autonomous drone platform and the 150 engineers working on the platform.

- Architected and implemented a complete revamp of Skydio's AWS deployment in support of SOC I/II
  - Transitioned from one legacy account to an AWS organization with full SAML support for users
  - Implemented a scalable transit system to ensure secure private communication between all of Skydio's networks
- Implemented an Incident Management process and on-call systems for external and internal customers
- Championed the introduction of Kubernetes into the development lifecycle
  - Developed a Bazel & jsonnet based manifest generation library
- Uplifted legacy deployments of external services to automated highly available container based deployments
  - Reduced time to deploy from 2 hours to 15 minutes
  - Automated deployments with instantaneous rollbacks
- Revamped Continuous integration systems to scale to 5000 builds a day across 2500 ephemeral workers
- Introduced a Continuous Deployment platform leveraged by every software team at Skydio to self service repeatable / reliable deployments

2019 - 2021 **Strateos - Director of Infrastructure**

Designing, developing, implementing and operating the robotic cloud drug discovery labs of the future.

- Actively worked with Product to strategically develop the Eng.Org's infrastructure roadmap to meet future growth targets
  - One facility to four facilities across two continents
- Revamped legacy build systems:
  - Decreased build times by 13x and drastically increased the org's feature velocity
- Bootstrapped a multi-account AWS configuration from scratch with full infrastructure-as-code (terraform)
  - Seemlessly assimulated legacy pre-merger AWS accounts, and transferred workloads between accounts and regions
- Lead multi-diplinary teams in converting legacy monolithic CI system(s) to a modern cloud native elastic CI system
  - Modern elastic Jenkins backed by full configuration-as-ccode and GitOps methodologies
- Lead an SRE team in shifting manual legacy bare metal deployments to fully automated CI/CD deployments to Kubernetes
  - Self-service and self-healing HA multi-cluster ArgoCD deployment
- Implemented, maintained and operated a cloud native observability platform comprised of: Prometheus, grafana, alertmanager, sumologic and pagerduty
- Implemented SSO via Okta for all mission-critical systems - from baremetal auth to internal apps to AWS to Eat Club
- Desgined and implemented a global transit system, by utilizing AWS transit gateways to:
  - Dynamically reconfigure the global network multi-region multi-cluster kubernetes footprint with local facilities via BGP peering
  - Provide a secure intranet for employees across the country, in Singapore, France and contractors in India
- Provided mentorship and training across the teams with respect to: architecture, CI/CD, infrastructure and networking

2013 - 2019 **3Scan - Director of Production Engineering**

Oversaw a multi-disciplinary team of 15 - from hardware to software engineers, and biologists to product specialists - to develop a high-resolution/high-throughput 3D medical imaging system.

- Lead a team of software engineers in designing, developing and implementing a system capable of ingesting 24GB/s of imagery
  - Redesigned the original storage pipeline from a massive bare metal Ceph deployment to a cloud native objectstore backeend that reached a max size of 3.8PB
- Merged a facility with the AWS cloud by executing a build out with 40Gbps of leased fiber from AWS(us-west-2) into downtown SF
  - Lead the effort for 3Scan to become officially recognized by ARIN
  - Acquire publically addressable /24 block of IPv4 space

– Owned and operated BGP routing systems with two ISPs and AWS to route imagery into S3

Technical Experience

Software/System Design

Production ready systems should be modular, composable, reliable and operation on the principle of least surprise.

Extensive experience with the following:

- **Build systems**: Bazel, CMake, Gradle, Lerna, Maven, Tox, Poetry
- **CI/CD**: ArgoCD, AWS CodePipeline, Buildkite, CircleCI, Jenkins, Github Actions, GoCD, Tekton, Travis
- **Cloud Infrastructure**: All things compute, networking, storage, security, AI/ML related to AWS or GCP
- **Configuration Management**: Ansible, Puppet, Terraform
- **Containers/Micro-services**: Docker, ECS, jib, Kubernetes, Lambda, KNative, Kubeless
- **Development Environments**: AWS Cloud9, Docker, Eclipse Che, Gitpod, Intellij, Vagrant
- **Edge Computing**: Akri, Balena Cloud, ioFog, AWS Greengrass, AWS IOT Core
- **Identity Management**: Active Directory, Okta
- **IT/Networking**: Managed 3Scan's AS, BGP peering with multiple ISPs and AWS. Cisco/JunoOS you name it!
- **Languages**: Bash, Python, Java, Go, Javascript, .Net, Node, Python, Scala, Typescript
- **Observability**: ELK, Grafana, Prometheus, Sumologic, Splunk
- **Operating Systems**: At home in any flavor of linux, MacOS and windows
- **Service Mesh**: Consul, Istio, LinkerD

Engineering Management

Engineering is fundamentally a creative task, and the job of a strong Leader is to maximize people's ability to get the thing they want to do done.

- **Agile methodologies**: Applied to both software and hardware
- **Project management**: From gantt charts and QFDs to task management, OKRs and KPIs
- The customer experience is key, dog-fooding is a must
- Have overseen complex multi-disciplinary teams from 2 to 15 engineers
- Deeply enjoy seeding an engineering culture that will meet the future organization needs

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