

# Theral Mackey

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San Francisco, Ca

Accomplished Sr Site Reliability Engineer with 20+ years of experience designing, implementing, automating, monitoring and optimizing infrastructure and services. Well versed in on-call, incident response and mitigation, and post-mortems. Planning and executing critical and complex projects at scale with minimal interruptions in production environments and developer time.

## WORK EXPERIENCE

### Sr SRE Contractor

Oct 2024 - Feb 2025

*Transcarent | Remote*

Contracted to help manage Okta SAML configs via Terraform for client and partner connections. Contract extended to complete fulfillment of the active and added connections, and scope expanded to assist with other projects.

- Modularized Terraform Okta configs and organized the Terraform Git repository, reducing a normal SSO configuration from multiple resources and 170+ lines of settings, to a single module with 12 lines of input.
- Leveraged module to create expedited workflow for SSO configs, reducing the development to initial release time by 4 hrs
- Completed 12+ client/partner configurations, working with client teams to setup, test and release the SSO connections for customers across multiple environments.
- Wrote inline-webhooks in golang to retrieve required SAML assertion values not stored in the Okta IdP
- Created a full SPA load tester utilizing Playwright driven by Artillery in a minimized docker container running as a GCP cloud run task. Used it to test an AI chat product and the full user experience for hundreds of concurrent users.

### Sr Video Core Services Engineer L6 (SRE)

Dec 2018 - Jun 2023

*Twitch (Amazon) | San Francisco, Ca*

Reduced tech-debt and modernized the bare-metal server fleet. Took ownership of core back-end services and re-architected them into fault tolerant manageable solutions for 55000+ bare-metal servers distributed in 80+ datacenters around the world.

- Designed and led a project that upgraded legacy Puppet configuration management platforms to a unified modern version deployed on AWS EC2 and ECS by Terraform, with a Grafana dashboard to track the upgrade of 55k hosts
- Collaborated with 50+ service teams to orchestrate a downtime-free upgrade path for multiple projects
- Implemented CI/CD workflows and custom environments for the Puppet configuration management system, allowing bespoke environments for each of 120+ service types across all servers
- Divided the monolithic Puppet Git repository into 220 module based code repositories, reducing merge conflicts and testing delays by over 90%. Separated service level configs from system level configs, and engineered a system to create cohesive builds across the repos and eliminate unintentional downtime from conflicting code updates
- Ran a project to migrate authentication of all Twitch systems from in-house LDAP to AWS managed SSH certificates, reducing login lag by 5s and shifting user access management into AWS, also resolving a security issue
- Wrote python web hook receivers for automated code deployments, SSL certificate ordering and testing, and an AWS Lambda to assign DHCP Fixed address reservations in an Infoblox appliance, amongst other automations

### Sr Systems Operations Engineer

Feb 2012 - Dec 2018

*Evernote | Redwood City, Ca*

Managed and streamlined the Xen server fleet running production Tomcat + Mysql service, while expanding from 350 to 1000+ servers.

- Developed an open-source [2-factor authentication plugin for FreeRadius](#), back-ended by LDAP, that works on non-2fa ready systems and network devices that support Radius
- Designed, built, and maintained the LDAP/Radius central authentication services management UI, and internal SSL CA infrastructure. Air-gapped corporate vs operational infrastructure with credential sync into Google Cloud
- Redesigned staging, dev, and test environments, with automated provisioning and ephemeral stage environments
- Moved services between physical data centers, built a Disaster Recovery site, then moved the entire service into GCP
- Maintained Jenkins CI/CD Build infrastructure, including Xen and VMWare build nodes running Linux, WindowsOS X and started transition to Docker/GKE build nodes
- Wrote Ansible playbooks for service recovery of DRBD and Mysql transaction log playback for data recovery

## Systems Operations Engineer

Jan 2009 - Feb 2012

Zetta | Santa Clara, Ca

Built the infrastructure to launch the initial product offering (cloud NAS), and helped pivot into enterprise cloud-backup.

- Automated Xen and CFEngine to auto-provision machines and virtual servers
- Setup and managed replicated DNS, DHCP, LDAP, Radius, Kerberos, RSA Securid, Qualys
- Created end-user applications for managing centralized Auth and DNS, and implemented production Authentication methods allowing service integration with customers' own internal auth servers
- Implemented user and group level authentication per virtual\_vhost for WebDav using custom patched Apache modules
- Designed and built an enterprise search solution for customers, using Lucene and Solr. Wrote a message queue based feeder to index customer data as it was uploaded

## Systems Operations Engineer

Aug 2007 - Jan 2009

Ning, Inc | Palo Alto, Ca

Built and automated the production systems running this Social Network's production service,

- Setup central LDAP/Radius services for Sun and Linux systems, WiFi 802.1x, and network gear
- Setup and managed internal Asterisk phone system, w/automated SIP phone provisioning and LDAP authentication
- Utilized jumpstart and Solaris Zones to create a hands-free plug-and-play server provisioning system
- Created a deployment meta language allowing natural-language scripted complex deployments with live reporting in IRC

## Systems Operations Engineer

Jun 2002 - Aug 2007

Cbeyond, Inc | Atlanta, Ga

Automated manual processes at this VoIP telecom startup, while expanding from 3 to 8+ markets and executing an IPO

- Wrote an automated T1 testing utility allowing iLECs to verify, test, and accept T1 circuits via webpage
- Implemented a migration application to move a customer's network path and services as part of TRRO mitigation

## SKILLS

- Infrastructure as Code: Puppet, Terraform, Ansible
- CI/CD: Jenkins, GitHub
- Authentication Systems: LDAP, Radius, Kerberos, TOTP, SAML
- Cross-Team collaboration
- Cloud Platforms: AWS, GCP
- Linux Systems
- Scripting and programming: Python, Bash, PHP, Perl
- Databases: Mysql, Postgres
- Virtualization and Containers: Xen, Docker, KVM, VMWare
- Monitoring and Alerting: Nagios, Cloudwatch, DataDog, PagerDuty, Splunk, Graphite, Grafana
- Physical Datacenter planning, builds, moves and maintenance
- TCP/IP Networking, switches, routers, load balancers
- Incident Response Management
- Troubleshooting and remediation
- Documentation and runbooks
- System design and automation

## CERTIFICATES AND AWARDS

- Certified Scrum Master - Scrum Alliance
- Jim Markle Operational Excellence Award - Cbeyond

## EDUCATION

Georgia Institute of Technology Bachelor of Mechanical Engineering

April 2000

## VOLUNTEERING

**Temple of Together:** Temple Builder

[www.2024temple.com](http://www.2024temple.com)

Mar 2023 - Sep 2024

Full-time volunteer Lead CNC operator, heavy machinery operator. Edited gCode and ran an 8'x4' ShopBot CNC router, saving the project \$50k+ instead of outsourcing. Wrote operating procedures and runbooks for inexperienced volunteers. Participated full-time during on-site build of the Temple structure. Part-time volunteer for 2023 as well.

**San Francisco Bay Chapter of the National Speleological Society:** Executive - Newsletter Editor

Jan 2011 - Present

A 501(c)(3) caving organization preserving caves as a natural resource and educating the public. Voting member of the board.

The publication has won multiple awards from the national organization for cover art/layout, many of which use photographs shot by myself. Responsibilities include managing technological resources and internet presence. [www.sfbaycaving.org](http://www.sfbaycaving.org) [www.caves.org](http://www.caves.org)

**TurningWheels for Kids:** QC Wrench

[turningwheelsforkids.com](http://turningwheelsforkids.com)

Dec 2012 - Present

TurningWheels builds 2000+ bikes (36,729 total by 2019) during their Big Bike Build each year that are given to children in need.

**Responsible Organized Mountain Pedalers:** Director - Member At Large [www.svmtb.org](http://www.svmtb.org)

Jan 2009 - Nov 2012

A 501(c)(3) mountain bike organization promoting mountain bike recreation and sustainable trail access in Santa Clara and San Mateo Counties. A regional chapter of the International Mountain Biking Association (IMBA).