SHAUN KUPPE

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A skilled and reliable, team oriented engineer.
Extensive professional experience encompassing support, automation, troubleshooting, monitoring and optimization of mission critical applications in a wide variety of unique environments leveraging industry standard and bleeding edge technology.

Key strengths in **Kubernetes, DAOs, DeFi,** and **Linux/Unix.**
with an emphasis on **AI, Blockchain,** and **Security.**
Demonstrated excellence in **System Engineering, DevOps, Development, Operations** and **R&D.**

Skills/Proficiencies:

- Virtualization
- DevOps & Infrastructure
- Kubernetes, Docker
- Languages (Perl, Python, Ruby on Rails, SQL, etc.)
- GNU/Linux and Unix System Administration
- Systems Design and implementation
- Automation and Deployment

Agile · Ansible · Apache · APIs · Automation · Blockchain
CDN · Cisco · Cloud · Clustering · DAOs · dApps · DeFi
Disaster Recovery · Docker · Documentation · EMC
ENS · Ethereum · Firewalls · Git · Grafana · Helm
Kubernetes · Linux · Mongo · Monitoring · NAS · Nagios
Networking · NFTs · Nginx · NoSQL · Perl · Puppet
Python · Relational Databases · Ruby on Rails · SANs
Scrum · Security · Splunk
Tools Development · Unix · Virtualization
Virtuozzo · VMware · Web3 · Zabbix

Work Experience:

Iqlusion
Denver, CO

CosmoSys Engineer — 2024 - Present

This role consists of engineering solutions for maintaining state and validating transactions on the Cosmos, Neutron, Stride, Osmosis, Agoric, Penumbra and Celestia open source blockchain ecosystems.

- GCP and Colo based infrastructure.
- Monitoring via DataDog.
- Open source collaboration.
- Juniper Networking, Debian Operating System.
- Incident Response and Root Cause Analysis.

Zoom Video Communications
Denver, CO

Sr. DevOps Engineer – Team Lead for Zoom for Government — 2021 - 2024

Engineering solutions for a separate DoD IL4 instance of Zoom designed specifically for the US Government. Scaled the meeting recording infrastructure by doubling capacity and implementing redundant storage. My greatest accomplishment was building and scaling a ML/AI based live language transcription and translation service to enable users speaking and/or chatting in any language to collaborate over Zoom.

- Scaled core meeting infrastructure to support 120,000 concurrent users.
- Scaled infrastructure to support 2,880 concurrent meeting recordings.
- All components deployed in a hot/hot geographically redundant configuration to support disaster recovery.
- Both AWS Cloud and Bare Metal on-prem infrastructure.
- Designed, deployed, and provided support for an ML/AI-powered in-meeting live transcription and translation solution.
- Deploy and support offline meeting text transcription.
- Implemented persistent chat functionality across repeat/persistent meetings.
- Deploy and support live streaming meeting solutions for Facebook, YouTube and Twitch.
- Mentored multiple junior and mid level engineers.

***Comcast VIPER** (**V**ideo **IP E**ngineering & **R**esearch)*
Denver, CO

Software Development and Engineering

2014 - 2021

Engineer 4 – DAI Team Lead (2016 – 2021)
Production DevOps heavily focused on SCTE Signal Processing to support Dynamic Ad Insertion, National Blackouts, Managed Services and Regional Blackouts in various Adaptive Bitrate Streaming environments. Other custom solutions across the Linear/Live IPTV, TV Everywhere (TVE), and Title VI IPVOD footprints for both Comcast and Syndication Partners. SCTE-35, ESNI/SCTE-224 standards.

Engineer 3 (2014 – 2016)
During this timeframe, VIPER was in the process of migrating all Comcast video delivery from analog (QAM) to digital (IPTV). My greatest accomplishment was maturing the company's TVE (TV Everywhere) product and architecture from Version 1.0, a 3rd party virtualized Windows based solution to Version 2.0, an in-house Linux based solution.

Supported Live/Linear and VOD IPTV across multiple adaptive bitrate video delivery platforms (MPEG DASH, Apple HLS and Adobe HDS).

Part of the migration process was to ensure that FCC requirements are met in order to deliver alternate content events following SCTE (Society of Cable Telecommunications Engineers) Standards, such as Emergency Alert System (EAS) notifications and Blackouts for particular sporting events. This role was originally focused on end to end IP video delivery and eventually morphed into a strong focus on Dynamic Ad Insertion.

- Support $1B/year revenue generating IPTV Dynamic Ad Delivery workflow across multiple video delivery platforms.
- Deploy, monitor and troubleshoot custom microservices written in Go, running in Kubernetes environments.
- Application deployments via Helm with custom automation.
- Monitoring/metrics and alerting utilizing Nagios, Splunk, Prometheus, Grafana and Sysdig.
- MongoDB and PostgreSQL back-end database administration in Bare Metal, Virtual Machine and K8s environments.
- Custom tools development.
- Managed many GitHub repositories.
- Incident Response and Root Cause Analysis.
- Create and maintain documentation for new deployments, day to day operations, break/fix and one off solutions.
- Organize and execute internal and customer changes in designated maintenance windows.
- Migrated large scale VM environments to Kubernetes.
- Large scale Virtual Machine environments administered via Puppet configuration management and automation.
- Built out Highly Available multi-site Segmented Advertising solution.
- Deployed Highly Available multi-site VOD Dynamic Ad Insertion system.
- Developed a services bot for Slack to perform back-end debugging tasks on demand.
- Developed various Ruby on Rails web applications to perform tasks, such as scraping Splunk results to retain and graph them, or simple rake tasks to accomplish things that don't exist elsewhere.
- Work with Content Delivery Networks, Load Balancing, and Varnish HTTP Cache.
- Automated VM provisioning via the VMware ESXi API.
- VMware ESXi/vCenter on Cisco UCS.

Latisys / Zayo
Denver, CO

Sr. Systems Engineer

2011 - 2014

Worked closely with Sales Engineers to architect, build, monitor and support custom solutions from the ground up ranging from a single Virtuozzo instance with cPanel to full blown outsourced IT Departments with VPN access and Disaster Recovery.

Deploying an HP 3PAR SAN was among my greatest accomplishments in this role, along with Symantec Endpoint Protection Manager for an internal Anti-Virus solution as well as a managed SaaS solution for customers.

Dedicated private cloud and multi-tenant "semi-private" cloud offerings enabling anyone to offer their own white labeled high availability, highly scalable cloud hosting solution.

- Custom solutions with a strong focus on ROI across eight geographically diverse markets.
- VMWare ESX/ESXi Hypervisors, Virtuozzo and Hyper-V virtualization technologies.
- Deploy and evaluate new technology for potential managed services / SaaS product offerings.
- Veeam backup and disaster recovery utilized in VMware.
- Fibre Channel and iSCSI SAN Installation, Configuration and Maintenance.
- Cisco Nexus 5k/7k series, ACE20/30s and Palo Alto Firewalls.
- Active Directory / LDAP management and configuration.
- PXE / Kickstart for custom system provisioning.
- Nagios monitoring with modified OpsView front-end.
- Cacti monitoring for internal network devices.
- Supported multiple HP 3PAR and Dell Compellent / EMC Isilon SAN frames.
- EMC Avamar Data Protection utilized internally for backups as well as externally as a Managed Services SaaS deduplication backup product offering.

Cisco / Webex
Thornton, CO

Data Center Engineer 2007 - 2010

Incidence Response, Root Cause Analysis, Monitoring, Maintenance, System Provisioning and Deployments.

Developed chat services bots for IRC and Jabber/XMPP in Perl and Ruby to perform simple tasks like querying SQLite, MySQL and Oracle RAC databases. These tools were widely used as shortcuts by team members to locate servers in datacenters and racks.

- Monitoring via HP OpenView, SiteScope, Nagios and internally developed monitoring tools.
- Build, configure, deploy and manage SMC, Sun, Dell and IBM systems.
- NetApp storage administration.
- Schedule and execute changes in maintenance windows.
- Support WebEx core meeting infrastructure in a geographically high availability environment.

Sun Microsystems
Denver, CO

System Administrator / Security Engineer 2000 - 2006

Supported enterprise-level software, Sun hardware and Cisco networking equipment. Designed and deployed the campus (3,500 employees) internal wireless networking security standard, and wrote/maintained server hardening scripts for internal servers.

Built and maintained the campus SunRay back-end infrastructure and converted all employee workstations to SunRay thin clients.

Wrote a Perl script to spider the entire campus network, logging switch port information and mapping employee desktops to their physical location for a large project to convert subnets into supernets in order to designate more IP space.

- Main point of contact for Sun University's back end servers, network infrastructure and student/teacher workstations.
- Designed/documented the internal desktop and laptop security standard.
- Server hardening scripts written in shell and maintained in CVS.
- Enforced and maintained SOX compliance.
- Wrote a script to spider the network tracking down rogue access points and disabling them.
- Implemented Xerox secure printing on the thin client Sun Ray platform (one-time PIN code printing).
- Worked with 3rd party companies to build out a wireless IDS/IPS solution.

Projects / Startups:

Medioh! / Nagra USA
Boulder, CO

Cofounder – Systems Engineer, Developer, Product Management 2007 - 2011

Our software enabled Cable, Satellite and Telecommunications providers to offer an expanded library of web videos to its customers. A web based application that allowed for video producers to create and publish their own App for Samsung Smart TV's. Acquired by The Kudelski Group / Nagravision, a Switzerland-based provider of integrated security solutions for digital television operators and content providers in September of 2009. Nagra, USA is The Kudelski Group subsidiary that worked with us directly.

ClickCaster, Inc.
Boulder, CO

Cofounder – Systems Engineer, Developer, Product Management 2005 - 2007

Created one of the first Podcasting web-based services on the internet, providing a turn-key solution for the creation, publishing and monetization of audio and video podcasts. An embedded audio recorder allowed for a full Podcasting Studio in-browser. The company sold in early 2008 to NeXplore Corporation, with all focus shifting to a new business called Medioh!, which targeted social television platforms.