Andrew Jenkins

andrewjjenkins@gmail.com · **github.com/andrewjjenkins** · **linkedin.com/in/andrewjenkinsengineer**

EXPERIENCE

Distinguished Engineer, F5 Networks and CTO, Aspen Mesh

Tech Lead (2017), CTO (2018), Distinguished Engineer (2021) - May 2022

- Inaugural class (2021) of Distinguished Engineers (L9 staff engineer) at F5 Networks
- CTO and co-founder of Aspen Mesh, a SaaS-backed intelligent service mesh product developed as an incubation (organic innovation) business inside of F5
- Lead for all Aspen Mesh technology, from writing the first lines of code through technical oversight for the team, from 4 to 35 employees
- Named key individual in Aspen Mesh's largest contract (>$10MM), securing and scaling core traffic management for the 5G control plane for a Tier 1 North American telco
- Invented Aspen Mesh Packet Inspector, packet-style visibility for end-to-end encrypted Kubernetes environments using a custom Envoy C++ filter. Launched and lead collaboration on combined solution with 5G tooling vendors Gigamon and NetScout.
- Technical due diligence leader for Kubernetes/cloud-related M&A at F5, including $500MM acquisition of Volterra
- Internal and customer technical education, labs, and office hours; most popular was my "As much crypto & TLS as you can learn in 2 hours" course
- Messaging and advocacy for Aspen Mesh and service mesh, including talks (mainstage at GlueCon; O'Reilly Software Architecture, Kubernetes meetups in Boulder, Seattle, Bay Area, Toronto, online), webinars, two podcasts for The New Stack, a book foreword, blog, educational content like Aspen Mesh's Service Mesh University, over a hundred sales calls
- Best Talk (out of ~40), F5 company conference (2019): Moving to Containers and the Far Edge: Aspen Mesh for Service Providers
- Member of F5's Product Strategy Taskforce (2021) for cohesive corporate product strategy across disparate acquisitions; originated F5's "Build/Buy Only Once" list

Senior Architect, F5 Networks

Sr. SE (2013), Principal SE (2013), Sr. Principal SE (2014), Architect (2015), Sr. Architect (2017)

- Lead architect for F5's open source cloud orchestration offerings for Kubernetes, Red Hat OpenShift, Mesos/Marathon, and CloudFoundry
- First containerized product from F5, with > 25M pulls
- Tech lead for partnership with Red Hat to replace their built-in F5 integration with ours
- Lead architect for ongoing cloudification of F5's flagship BIG-IP product (maintaining AWS integration and adding Azure and Google Cloud). Discovered CVE-2016-2084 and designed remediation

Software Engineer, LineRate Systems

January 2012 - February 2013

- LineRate Systems was acquired by F5 Networks for $125MM, >10x return; I was named a key engineer during acquisition
- Developed high-performance web traffic load balancing algorithms and implementations (Ketama-rehashed URL hashing and weighted least connections/transactions)
- Lead developer for our Node.js pluginfor users to program custom traffic management behavior (software-defined networking). Commercialized broadly by F5 as iRulesLX

SKILLS

Public & Private Cloud: AWS, Google Cloud, Kubernetes, OpenShift

Networking: HTTP, TLS, mutual TLS and zero-trust, ACME, L4 and L7 proxies, DNS, anycast

Technical M&A

Building SaaS Products and Businesses

Technical Education and Sales

Public Speaking and Writing

Software Architecture, Continuous Integration, performance, hardware/software co-design, automated quality

Team Leadership

Fluent: Go, C++17, C
Experienced: TypeScript, Python, Java
Familiar: Rust, Prolog, VHDL, Verilog

EDUCATION

University of Colorado at Boulder

BS ECE (2006), MS EE (2009)

University of California at San Diego / Coursera (online)

Bioinformatics Specialization (in progress 2023)

Automation Software Engineer, BioServe Space Technologies

August 2008 - January 2012

- BioServe Space Technologies is a research center at the University of Colorado that builds and operates small life science labs ("CGBAs") primarily on the International Space Station and Space Shuttle, supporting experiments from HIV vaccine prototyping to raising spiders in microgravity
- Designed and developed first automated command/uplink software for BioServe to ISS, allowing in-mission reconfiguration, science profile changes and software uploads/upgrades for the first time
- Developed custom drivers for, and deployed Interplanetary Overlay Network (ION) software to space, demonstrating automated ARQ and novel in-space routing technologies (RFC5050) as a key testbed of the Interplanetary Internet
- Extended ISS deployment to international partners JAXA and ESA (METERON) as member of the Consultative Committee for Space Data Systems
- A. Jenkins et al., *Delay/Disruption-Tolerant Networking: Flight test results from the International Space Station*. IEEE Aerospace Conference, 2010.

Graduate Research Assistant, Pervasive Communications Lab

July 2006 - August 2008

- Researched mobile sensor mesh networks on unmanned aircraft, developing novel wireless communication protocols using electronically steerable (phased array) antennas
- A. Jenkins, D. Henkel, T. X. Brown. *Sensor Data Collection Through Gateways in a Highly Mobile Mesh Network*. IEEE Wireless Communications and Networking, 2007.

Student Electrical Engineer, Laboratory for Atmospheric and Space Physics

September 2003 - July 2006

- LASP builds space science instruments for observation and investigation across and beyond the solar system; its instruments have visited all eight planets, Pluto, and more
- Designed digital and power electronic circuits, FPGAs and assemblies for the Venetia Burney Student Dust Counter (VBSDC) on the New Horizons spacecraft (flyby of Pluto and Kuiper Belt). VBSDC is the most distant (>54AU) and most sensitive (picograms) deep-space dust flux sensor ever operated; New Horizons successfully flew by Pluto (2015) and 486958 Arrakoth (2019). VBSDC was designed and built entirely by students
- Student Electrical Engineer lead for digital & power electronics on the Cosmic Dust Explorer (CDE) instrument on the Aeronomy of Ice in the Mesosphere (AIM) spacecraft
- Designed instrument wiring harnesses for Extreme Ultraviolet Variability Experiment (EVE) on the Solar Dynamics Observatory (SDO), including a novel automated high-potential test system
- M. Horanyi et al (incl. A Jenkins). *The Student Dust Counter on the New Horizons Mission* (book chapter). New Horizons: Reconnaissance of the Pluto-Charon system and the Kuiper Belt, Edited by C.T. Russell, Springer New York, 2009.

Founder and Vice President, Application Communication and Security Initiative

December 2017 - Present

- Small 501(c)(3) non-profit providing legal and technical infrastructure for intellectual property contributions to open source networking and security projects such as Istio, Envoy and Kubernetes