Kit Plummer

Technology Architect & Software Engineering Practitioner

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Profile

A technology architect and software engineer focused on distributed computing, open source development, software delivery operations, and emergent innovation culture. Current holder of TS-SCI clearance.

Skills

- **Problem Solver**
  Analyzing difficult problems and providing quick and maintainable solutions that allow organizations to be ready for market opportunities.

- **Change Agent**
  In tune with start-up and enterprise practices, excelling at evolving engineering methodologies towards optimum delivery requirements.

- **Service Focus**
  Communicating and managing needs between customers, engineers and operators, helping all to focus on their respective tasks - effectively and efficiently.

Experience

Georgia Tech Research Institute (GTRI)
Principal Research Engineer **2017-present**

Providing modern software engineering leadership to GTRI's portfolio of sponsors and clients, focusing on the continuous delivery of high quality and secure products and services.

- Chief Engineer for GTRI's design and development of Delta Flight Product's new In-Flight Entertainment system now flying on Airbus A330-900 aircraft, and soon coming to the entire fleet. Managed teams of embedded, mobile, system and test engineers across multiple organizations.
- Software engineering evangelist providing consulting internally and externally - covering software factory, Agile, as well as DevSecOps culture and practices. Established an organizational improvement function (DevUP) to promote better knowledge transfer, emergent innovation, and thought leadership.
- Business developer working with current and prospective sponsors, supporting white paper development, customer engagement and feedback, as well as speaking at various conferences and meetups to facilitate the modern software engineering (software factories and DevSecOps) dialog.

Ion Channel
Founder/CTO **2015-2017**

Business development and award of multiple $1M+ contracts with various intelligence community agencies, addressing software supply-chain requirements and source-code cybersecurity.

- Established and staffed engineering team in Portland OR focusing on 'product'-oriented development
- Coordinated initial feature requirements from customer/system/process consulting and analysis
- Led engineering team through dev tools, process and methods selection
- Rolled out continuous delivery infrastructure and processes to automate delivery of source and artifacts to customers

Design and development of initial software supply-chain product/service offerings

- Microservices-based architecture targeting AWS infrastructure with automated test and delivery
- Services written in Ruby and Golang deployed with Docker containers to AWS ECR/ECS
- Integration with upstream data providers (NIST NVD, language ecosystems, Github) and ingest to local datastores
- API, CLI, and UI development to support goverance, risk and compliance operations in multiple operational targets

AirGap / RadiantBlue technologies
Chief Engineer **2012-2015**

Consulted organizations on the "modern software engineering" enterprise

- Communicating the need for enterprises to accommodate a flexible culture, to accommodate technology change, preventing debt and allowing for the right tool to be applied to the job at hand
- Analyzing existing processes and documenting infrastructure and automation opportunities
- Training on infrastructure-as-code tools (ie. Puppet, Chef) and cloud and container tools (Openstack and Docker)

Developed open source alternative solutions for defense and intelligence systems, to enable rapid and emergent innovation opportunities

- Utilizing public and private cloud technologies (e.g. Amazon Web Services(AWS): EC2, S3/Glacier, Route53, RDS, etc.; Heroku PaaS; OpenShift) as well as emerging technologies such as NoSQL, map-reduce, and dynamic software frameworks
- Consulting on continuous integration, continuous delivery (CI/CD) and infrastucture-as-code (IaC) practices
- Supporting open source operations, serving as a board member at The Codice Foundation
- Working with the Distributed Data Framework project, providing Puppet and AWS support to support dynamic provision and auto-configuration of large-scale deployments

Managing development and operation of a workflow automation engine for delivery of software components

- Architected and implemented private cloud infrastructure based on Openstack, Puppet and Docker, and augmented by AWS compute and storage resources
- Designed a workflow engine for distributed task operations using Mongo, Grails, PostgreSQL, and Activiti
- Developed Ruby microservices connecting external data sources (e.g. NIST vulnerability database, VirusTotal, fossology)
- Worked with agencies to capture security process/audit, transport, and component manifesting requirements
- Integrating Amazon Web Services for elastic test agents, and disaster recovery flows for system images and software artifacts

MaestroDev
VP, Product Engineering **2011-2012**

Led the design and development of a DevOps tool suite to support emerging enterprise markets with software development-through-operations workflow automation

- Managed a globally distributed staff of software engineers, designers, technical writers, and administrators
- Communicated with executive stakeholders regarding strategy, execution and operational needs
- Worked with customers and test sites to optimize the delivery, monitoring and operation of system components
- Built a Ruote-based workflow engine that integrated best-of-breed tools in the SCM, CI, deployment, provisioning and configuration management arena

Dozer Software LLC
Principal **Present**

- Provide rapid prototyping, system design, and software engineering services to local, defense and mining organizations

Accenture National Security Services
Technical Architect **2007-2010**

Developed a semantic wiki/text engineering platform for document/intelligence inference for US ARMY CDI

- Processing document similarity and entity extraction algorithms to create "linkable" relationships
- Integrating open source projects Grails, GATE, UIMA, Tika, Jena to minimize costs and license constraints
- Architected for component distribution and high-scalability using publish-subscribe/XML/RDF interconnects

Architected and designed a dynamic data discovery and visualization service platform for USAF (SAF)

- Utilizing off-the-shelf software frameworks (Grails and OSGi) for maximum developmental performance
- Implemented multiple search algorithms to identify location/geo-based and other information
- Following Scrum agile software engineering methodology with geo-distributed team

Established and architected an open source contextual collaboration suite for the USAF

- Developed early prototype using Java/OSGi frameworks and HTTP interfaces
- Ported design to Ruby and Rails, RESTful, and Service-Oriented Architecture
- Published whitepapers and spoke at various Open Source and defense conferences and symposiums

Raytheon Missile Systems – Advanced Programs
Principal Software Engineer **2005–2007**

Developed a tactically-aware service integration platform, based on Enterprise Service Bus principals

- Created software development kit (API, documentation and tooling) for service developers
- Developed information assurance and security mechanisms to support multi-level classification support
- Participated in industry Expert Groups to drive specifications and standards towards company needs
- Operated in an Open development environment using GForge, Subversion, Maven, and Continuum

Lead engineer for the development of an unmanned system's mission computer/processing platform

- Performed processing platform trade study, researching against performance, scalability, size, weight, power, and interconnection requirements
- Supported initial flight testing of hardware, applied modifications to design as necessary
- Engineered a custom interface and mount for easy connection of communications and power adapters
- Integrated tactical and commercial datalinks to provide mobile ad-hoc network connectivity

Served as a Co-Chair of the Communications Technology Interest Group and Software Engineering Networks

- Organized and participate in large symposiums and workshops, reviewing content and managing events
- Fostered Open Technology Development and the use of Open Source software and tools

Raytheon Missile Systems – Operations Research: *Systems Engineer* **2003-2005**

Systems Integration Plus, Inc.: *Systems Engineer* **2001-2003**

ITT Technical Institute: *Adjunct Instructor* **2001-2003**

Pilot2Pilot Incorporated: *President* **2000-2001**

Marine Corps Community Services: *IT Special Projects Manager* **1997-2000**

United States Air Force: *Wideband/Satellite Radio Technician* **1990-1994**

Education

University of Maryland, Adelphi, Maryland December 2008 Master of Software Engineering

University of Maryland, Kadena AB, Okinawa, October 1999 Bachelor of Science in Computer Studies

University of Arkansas, Camp Foster, Okinawa, September 1999 Completed training, course work and requisite projects for mid-level management certification

Green Hills Software, Tucson, AZ October 2003 Completed training and certification for Integrity RTOS

Redhat, San Francisco, CA May 2001 Completed RHCE training and certification

Wind River Systems, Alameda, California September 2001 Completed coursework covering VxWorks 5.4 and Tornado 2.0

Activities

OVMTB High School Mountain Bike Team, Founder and Board Member

National Interscholastic Cycling Association, Level I Certified Coach

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Links

Github, Source code

kitplummer.github.io, Blog