

Morgan Bauer

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Experience

Morgan is an Open Source Software (OSS) Engineer for IBM working on Kubernetes. He has extensive experience in the creation of open source software in **Golang**, containerized software development and complex system architecture. Morgan also enjoys working with cross-functional teams, and presenting at conferences and meetups.

Specialties: Containers, Kubernetes, Cloud Computing, OSS Development, Developer Advocacy

IBM

San Jose, CA

Open Source Project Maintainer

July 2015 – current

Kubernetes – SIG-Node

- Formed SIG-Node-CI group to raise quality of existing end-to-end Ginkgo tests
- Triaging and fix sig-node testing failures as they occur to increase velocity
- Deprecating and removing failing and superseded test suites to remove duplication and decrease use of expensive server time
- Increase visibility of critical test groups by centralizing to a single top-level dashboard

Hyperledger Fabric - Enterprise Permissioned Blockchain for Business

- Maintained a **Golang** EVM (Ethereum Virtual Machine) chaincode for fabric by guiding new committers through contribution process
- Implemented ethereum json-rpc 2.0 endpoints for Remix IDE to connect with Fabric network to manage and deploy EVM smart contracts
- Drive Fabric adoption by implementing Truffle compatibility resulting in Truffle Conference keynote
- Mentored LinuxFoundation Intern to create WebAssembly Chaincode for Fabric
- Improved code quality of Gossip Protocol by **removing race-conditions** to re-enable integration testing and community usage
- Increased Fabric unit testing speed to increase contributor velocity by targeting slowest tests
- Implemented Kubernetes and Docker backends for Blockhead Ethereum Service Broker and port from Ruby to **Golang**

Kubernetes – SIG-Service-Catalog

- Maintainer and founding community member of Service-Catalog an implementation of the OpenServiceBroker API (OSBAPI)
- Implemented OSBAPI to expose thousands of existing IBM CloudFoundry services to Kubernetes
- Collaborated with multiple cloud providers to adopt CloudFoundry service concept for cross-cloud compatibility
- Created CI pipeline in Travis and transitioned entire pipeline to CNCF infrastructure driven by Prow
- Implemented aggregated APIServer (predating CRDs) for Kubernetes native object behavior
- Ensured multi-architecture compatibility by communicating with stakeholders of PowerPC and S390X

Maintainer of Docker/Moby Engine Core

- Maintainer of Docker ClassicSwarm (Docker-native cluster management predating Kubernetes)
- Decoupled the server side API from the engine leading to separate client and server binaries allowing efficient re-use of client code
- Increased code quality by performing corrective changes and enabling static analysis

Developer Advocate for Open Source

- Design & Execute Education on Cloud Native Technologies
 - Customizing content for internal and external audiences of both technical and nontechnical nature
 - Demonstrate value of containerization to improve application development and deployment
 - Encourage contributions back to upstream projects
- Grow IBM Open Source committer base by 300 through mentorship and education on **Applied use of Git with GitHub**
- Decreased new contributor fatigue to Kubernetes communities with increased documentation on node-e2e-test and videos on YouTube
- Triaged community issues by performing fixes and writing documentation

Lenovo

Rochester, MN

Software Engineer

October 2014 – May 2015

Manager of Managers (Lenovo XClarity Cluster Management)

- Administered secure source code repository and auditing with git, ssh, & gpg
- Built automation with maven, jenkins, & guestfish for an end to end pipeline - source code to deployable Virtual Machines

IBM

Rochester, MN

Software Engineer

July 2012 – September 2014

Manager of Managers (Lenovo XClarity Cluster Management)

- Project bring-up from first principles using maven, artifactory, jenkins
- RESTful API design and documentation with Restlet
- Componentized program with OSGi bundles and services
- Source control administration and education with RTC & git
- JUnit, EasyMock, Sonar for code quality at > 80% line and branch coverage

VMControl

- Drove unit testing among the team, and increased coverage from 0% to 26% on 200kloc
- Software Testing of Legacy Systems with JUnit, EasyMock, & PowerMock
- Java, Maven, SVN, & Python

Education

University of Florida

Masters of Engineering in Computer Engineering

Gainesville, FL

2010 – 2012

University of Florida

Bachelors of Science in Computer Engineering, Minor in Business Administration

Gainesville, FL

2006 – 2010

Conference Talks

Kubecon EU 2020: A Journey Through Kubernetes Admission Controller Taxonomy

Hyperledger Global Forum 2020: Hyperledger Fabric 101 Workshop

TruffleCon 2019 Keynote: Truffle Support For Hyperledger Fabric

OpenSourceSummit Japan 2019: Hyperledger Fabric 101: Permissioned Blockchain Platforms

OpenSourceSummit China 2019: Creating your First Smart Contract on Hyperledger Fabric

ApacheCon NA 2018: Comparisons of Cloud Native Communities

Kubecon EU 2018: Building a Fault-Tolerant Resource Controller on Kubernetes

CloudFoundry Summit 2018: Open Service Brokers for the CF Container Runtime

CloudFoundry Summit 2018 Hackathon: Project Blockhead - Winning Project

CloudFoundry Summit EU 2017: Getting a Handle on Your Microservices: Istio and the Open Source Broker API

Interests

Amateur Radio - General Class License KN6AQX

Photography - Travel Snapshots, Nikon D500 DSLR

Rust Programming Language