

Matthew Mark Miller

Engineer & Architect

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Experience

- 2015-Current [Apprenda](#) *Software Architect* Troy, NY
- *Architected solutions for updating monolithic development practices on the Apprenda Cloud Platform*
- *Led development of a new Kubernetes-based workload hosting platform*
- *Open sourced the Kismatic Enterprise Platform, a set of operations tools for Kubernetes*
- 2005-2015 [CommerceHub](#) *SE->Snr. SE->Software Architect* Albany, NY
- *Architected solutions and lead project teams for the leading SaaS provider of messaging, process modeling and onboarding solutions for the dropship industry.*
- *Voted MVP 2012, runner up in 2011, 2010, All-Star Team 2014, 4 values awards 2014, 2015.*
- *Open sourced three products: Pulleys (a state machine framework), Scorekeeper and File System Watcher*
- 2003-2005 [Business Automation Services](#) *Software Developer* Clifton Park, NY
- *Designed and built client-server desktop applications for sale to northeastern municipal government.*
- *Prototyped new products such as GIS [ESRI] integration and an online tax payment system.*
- 2000-2003 PowerOne Media *Programmer/Scripter* Troy, NY
- *Designed and built content management tools for a SaaS provider for local newspapers.*
- 1999-2000 BusinessOnline *Programmer/Scripter* Guilderland, NY
- *Scripted contract content management and web applications*

Main projects

- Summer 2016: Architected & led development on a bare metal, enterprise focused distribution of Kubernetes. Some of our work has been open sourced as the Kismatic Enterprise Toolkit. Included testing of Kubernetes on AWS, Google Cloud Platform, Azure, Packet.net & Rackspace.
- Spring 2016: Architected & led development on two major modernization efforts: pushing system testing from aging on-prem to cloud infrastructure and replacing a monolithic build with a version aware, component-oriented polyglot build using Nexus, TeamCity, Gradle and MS Build.
- Winter 2015: Introduced a series of open internal lectures on development topics held during Apprenda quarterly meetings.
- Winter 2015: Led development of workload scaling performance, uptime assertion and stress test frameworks for Apprenda Cloud Platform
- Fall 2015: Replaced Apprenda Java build with Gradle-based system, reducing build times from 45 to 4 minutes
- Summer 2015: Acted as architectural mentor for 5 product teams
- Spring 2015: Designed a system-wide full-text search engine for support users backed by elastic search. The core NTFS event watcher has been released on GitHub as part of CommerceHub OSS
- Winter 2014: Released a high performance, low latency, file translation service, allowing us to control license efficiency with IBM WTX.
- Fall 2014: Introduced a system-wide load test on a parallel production environment. The tuning efforts performed during this test lead to the first event-free holiday season in the company's history.
- Spring 2014: Co-sponsored a CommerceHub Software Craftsmanship series open to all employees.
- Spring 2014: Replaced three services that performed poorly in the 2013 holiday season.

- Winter 2013: Appointed product owner of the Commerce Hub platform team (8 engineers)
- Fall 2013: In preparation for the holiday shopping season, developed a metrics dashboard utilizing common OSS components and a non-invasive collection tool (ScoreKeeper, now OSS) to visualize processing load and allow support staff and executives to monitor the efficacy of tuning efforts.
- Fall 2013: In response to difficulty engineers were facing with CommerceHub's batch-scheduling engine, architected a new actor model concurrency engine with Akka resulting in 3x performance.
- Summer 2013: Led other architects in the development of a technical radar (similar to that of [ThoughtWorks](#)), outlining in tools, technologies and techniques worth considering for new solutions.
- Spring 2013: Built the first system-wide ER diagram for our core product as part of the analysis for a primary key widening project, detailing the relationships of over 700 entities.
- Spring 2013: On a dare, increased serial performance of inventory processing by 5x, mainly through pipelining. This allowed CommerceHub to onboard customers performing millions of updates per day.
- Spring 2012: Led CommerceHub's "platform" (API and architecture) team, tackling issues of scale. The first task of the platform team was the introduction of session persistence for our web app.
- Fall 2011: Re-architected our batch distribution system to allow elastic addition of compute resources
- Most of 2011: Architected and implemented a file transfer gateway – a suite of microservices enabling applications to exchange files with customers without being aware of their communications endpoints.
- Summer 2009: Through a rearchitecture and training effort, grew Commerce Hub's Less-than-Truckload (LTL) messaging system by 300% YoY
- Most of 2007, 2008: Designed tools to help streamline Costco's drop ship returns process.
- Most of 2006: Designed and implemented a message validation framework that allowed for the tracing of error messages directly to a source field on a data entry form or interchange format
- Fall 2005: Implemented an engine for building complex state machines based on Statecharts diagrams and ported existing 108 FSAs to the new model. This library is now open sourced as "Pulleys."
- Spring 2005: Built a .NET web application to allow municipal residents to pay their tax bills online
- 2004: Built and installed a prototype GIS application for municipal planning departments
- 2003: Implemented the Integrated Property System (IPS), a fat client & database suite for municipal government building, planning and zoning departments. Included a homemade ORM & data merge tool.
- 2002: Standardized content loading onto a single COM based platform for uniform input validation
- 2001: After 9/11, built a spider for internal users to search for local news on our network related to terror events, later made available to our newspaper partners.

Core Tech/Skills

Java / Groovy / Scala	SQL	UML/Ad-hoc modeling
Analysis & Documentation	Virtualization	Service Oriented Architecture
Message Queues (JMS)	JEE	Web Programming
Enterprise Integration	JavaScript	Concurrent programming
JVM performance optimization	Data Science	Continuous Integration
Mechanical Sympathy	Batch Processing	C#
Actor Model Concurrency (Akka)	Build Systems	Metrics (Graphite, Statsd, DropWizard)
Golang	Ansible	AWS, GCP, Azure
Kubernetes	Docker	Distributed file systems (Gluster, Ceph)

Education & Conferences

2016 KubeCon London
QCon San Francisco
2014-2016 QCon New York
2014-2015 Coursera: Cloud Computing 1 and 2, FP in Scala, Reactive Programming in Scala
2007 Sun Certified Java Programmer
1996-2000 Binghamton University, BA in English Literature and Rhetoric

Speaking engagements

2016 QCon San Francisco ("Building a Microservices Platform with Kubernetes")
Capital District Google Developers' Group ("Google's Cloud Strategy", "Concurrency Styles", panel discussion on modern software platforms)
Albany Open Source Festival ("Intro to Kubernetes")
2014 LevelUp Con ("See-through Software")
Hack RPI ("Hacking your career")
Capital District Java Developers' Group ("Inside the Akka Studio")

References available upon request