

Mark Maglana

Software Engineer with a Twist of DevOps

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CNCF Certified Kubernetes Administrator

Certificate ID: CKA-1700-0020-0100

I build software for software engineers. My breadth of experience and passion for developer productivity helps me design and implement systems and platforms that improve a software team's responsiveness to market changes.

Highlights

- **Designed and implemented a CI/CD platform for Tesla** - I joined Tesla's Digital Products team to revolutionize their software delivery process. I achieved this by rationalizing the build and release process and automating most of it through a combination of open source software and in-house code.
- **Produced a Kubernetes distribution for Teradata** - Teradata needed a distribution of Kubernetes that catered to its very specific needs. I mentored a team of DevOps engineers to produce this internal distribution called KubeKit. I focused on equipping the team with Scrum/Agile practices as well as a CI/CD platform allowing them to iterate quickly and deliver a 1.0 release within 5 months.
- **Increased billing module accuracy and speed** - When a former employer's billing module was producing inaccurate results, I took on the task of debugging the problem. After finding the cause, I introduced a number of fixes that improved the speed and accuracy of the reports.
- **Contributed to the fast delivery of the Cisco 9K OVSDB plugin** - Dimension Data needed to deliver an agent that allowed Cisco 9K switches to work with VMware NSX. I volunteered to study the associated open standards as well as the proprietary protocols for which we didn't have any documentation at the time. I codified everything that I learned into a fully automated test harness that became part of the team's CI/CD pipeline.
- **Talked at various meetups and conferences** - I've presented on various topics such as [How to Write Fully-Tested Ansible Modules](#) (AnsibleFest NY 2016), [Deploying OpenShift with Ansible](#) (Internal talk 2016), [Baking and Frying Machine Images](#) (jFrog SwampUP Napa Valley 2017), [Multi-node DevStack with Puppet](#) (OpenStack Summit Atlanta 2014), [How I Built My Own BDD Framework](#) (Ruby on Rails Meetup, Los Angeles 2013), and [Introducing Scratch Programming](#) (2nd-grade Classroom 2017).
- **Reduced a 2-day manual process to 5 seconds** - While building the MIS for a metal fabrication shop, I learned about a manual process that took shop floor engineers 2 days to complete. After some research, I was able to build a desktop app that reduced the computation time to 5 seconds.
- **Recipient of academic excellence award for best strategic plan** - I wanted to understand the

business of software and decided that focusing on the basics of business management was key. I then applied for our state university's graduate program for management where I was accepted. During the program, I was top of class for Operations Management, Financial Management, and Business Strategy. I then used everything that I learned to create a strategic plan for our family business which resulted in me getting the academic excellence award for best strategic plan.

Experience

Senior Staff DevOps Engineer (Dec 2017 - present)

Tesla, Fremont, CA

Tesla's mission is to accelerate the world's transition to sustainable energy.

Achievements

- Designed and implemented a CI/CD platform that software engineers used for their applications. They onboarded their projects via a declarative YAML file that they commit with their code. The platform provided services such as (1) container image build and publish, (2) Unit, integration, and black box testing, (3) static code analysis, (4) notifications, (5) build health dashboards, (6) auto-DB migration, and (7) auto-deployment to Docker hosts or to Kubernetes.
- Implemented the CI/CD platform with "everything as code" in mind. To that end, the Jenkins cluster is managed by Ansible while the pipeline logic is through Jenkins' Global Pipeline Libraries. Packer and Vagrant were also used for provisioning and configuring a local "dev" copy of the cluster.

DevOps Engineer (Nov 2016 - Dec 2017)

Teradata, Santa Clara, CA

Teradata Corporation is a Fortune 1000 provider of data warehouse platforms, software and services. Our team is at the center of the company's thrust to build modern data analytics products around Teradata's traditional offerings.

Achievements

- Team Lead for the internal Kubernetes distribution project called KubeKit. This project is a core critical component of all the microservices-based products that Teradata is building. I led the team, provided product requirements guidance, wrote code, as well as oversaw the internal community management aspects that were necessary to onboard the various products and programs on top of the project. I also worked on growing the team such that it can support all the Kubernetes requirements of the aforementioned Teradata products.
- I functioned as the DevOps Engineer for the AppCenter project where I was responsible for guiding the architecture of the team's software manufacturing pipeline. I designed the pipeline and also did the initial implementation. I later served as an adviser/mentor to the team members that were implementing the rest of the design. This software manufacturing pipeline is critical in ensuring the timely delivery and quality of AppCenter which is a central component of Teradata's UDA program.
- I was a member of Teradata's internal DevOps Technology Council. This council is tasked to collate, curate, and evangelize the DevOps best practices across Teradata to improve its

Engineering operational efficiency and effectiveness. I was assigned to the “standardized processes” component of the framework that the council is building.

QA/Release Engineer (Jan 2014 - Sep 2016)

Dimension Data, Pleasanton, CA

Dimension Data is a leading provider of professional, cloud, consulting and managed services for advanced IT solutions. Our team actively contributed to Ansible, OpenStack, Open vSwitch, and Open DayLight. My official title was QA/Release Engineer but my responsibilities spanned those of a software engineer/architect.

Achievements

- Designed and implemented a non-interactive agent that automatically launched time-bound AWS spot instances as needed for use as auxiliary Jenkins workers that handled non-time-critical builds.
- Wrote Ansible modules to be used for provisioning resources on Dimension Data’s cloud service.
- Developed an Ansible-based project that deployed an HA OpenShift PoC for our CI/CD pipeline.
- Designed and implemented the full stack of a web application that was designed to transform data from one format to another. The system used Rails, Postgres, Redis (for job queueing), Resque, and Ceph both for persistent block and object storage.
- Designed and implemented the automated test harness for the N9K OVSDb plugin for NSX.
- Designed and implemented the [Cisco N9K OVSDb plugin CLI utility](#).
- Mentored development teams in new technologies, standards, and even 3rd-party protocols that they needed to incorporate or interface to. This allowed them to hit the ground running and deliver within budget.

Senior Director Of Engineering (Jul 2012 - Jan 2014)

Morph, Manhattan Beach, CA

Morph was the first PaaS built on top of AWS and later on pivoted to providing IaaS appliances that its customers can install inside of their data center to use as a springboard for quickly building their own cloud computing environment. My official title was Senior Director of Engineering but my actual roles spanned that of a software engineer/architect.

Achievements

- Designed and developed a billing module for the product.
- Wrote a Ruby client library for the OpenStack API.
- Wrote a Cucumber-based integration test for the QA team.
- Mentored developers on proper software development practices.
- Helped set up the CI tools and process to ensure the main branch always has deployable, stable code.

Senior Director for Product Development (Jan 2008 - Jul 2012)

Exist Global, Manila, Philippines

Exist provides tailored solutions, consulting and full cycle IT services to customers around the globe. At the time, I was assigned to Morph to help produce its cloud computing product.

Responsibilities

- Oversaw the design and implementation of Morph AppSpace, one of the earliest Platform-as-a-Service providers built on top of AWS in the market.
- Managed the product roadmap to ensure that requirements are prioritized properly and that they contain the right information.
- I helped Marketing Communications in their effort to generate product information for various marketing collateral.
- Implemented agile practices in Engineering to ensure timely delivery of stories and an overall coordinated effort of releases.

Systems Analyst/Programmer (Mar 2003 - Dec 2006)

Deco Machine Shop, Davao City, Philippines

Deco Machine Shop, Inc. provides industrial machine fabrication services nationwide. Its major clients include Dole Philippines and San Miguel Corporation. As a systems analyst, my job was to understand the processes of the company and build software tools to automate parts of it. Software tools developed include a gear combination application which reduced a machinist's work from one day to just under 5 seconds while increasing work precision.

In 2007, I took a year off to obtain my second Master's degree.

Systems Analyst/Programmer (Jan 2002 - Jan 2003)

iThink Technologies, Davao City, Philippines

iThink provides business software and training solutions for major companies nationwide. Major clients include the Bangko Sentral ng Pilipinas, Meralco, and Davao Light and Power Company. I was involved as a systems analyst/programmer for the development of purchasing systems, HR systems, and other enterprise applications for iThink's major customers. I also spearheaded the use of the Unified Modeling Language within the company and also provided some in-house training for a number of then upcoming technologies and development platforms.

Web Developer (Jan 2001 - Jan 2002)

Smartweb Philippines, Cebu City, Philippines

Smartweb was a US-based company with its production facility based in Cebu. It was involved in developing websites for small to medium sized businesses in the USA. I was a team leader in this organization. Apart from this, I also developed Smartweb's employee time tracking and billing system, which later helped speed up the invoicing and employee time tracking for the company.

Student Volunteer - Web Developer (Jun 1997 - Oct 2000)

University of San Carlos, Cebu City, Philippines

While attending college I was also a volunteer of the University of San Carlos Web Development Team which was tasked to build and maintain the university's website. I was involved in the implementation in both the client side and the server side of the website and was later promoted to team leader. The team was, by then, composed of 10 student volunteers.

Education

Master of Management, Technology, Innovation, and Commercialization

Jan 2007 - Dec 2007

The Australian National University

Acton, Canberra ACT 2601, Australia

Master of Management

May 2004 - Apr 2006

University of the Philippines - School of Management

Mintal, Davao City 8022, Philippines

BS Computer Engineering Jun 1995 - Oct 2000

University of San Carlos

P. del Rosario Street, Cebu City 6000, Philippines

LinkedIn Recommendations

Mark is an exceptional employee from his personal interactions with his peers, development skills and passion for quality. He has a wide breadth of exposure to different programming languages, configuration management and software design and architecture.

— Mike Outland, Senior DevOps Manager, Tesla

Mark is an exceptionally capable software architect and developer. When a new technology or language needed to be implemented, Mark was able to obtain a deep level of understanding in a very short amount of time. I have seen him architect and implement everything from full APIs to cloud middleware to full front-ends. Over the years he has gained a wide breadth of knowledge in everything cloud & container. Working with him has been regularly humbling and wonderfully educational. Beyond his technical prowess, Mark is also very fun to work with and mentors people exceptionally well. He uses his great sense of humor to take the stress out of tough challenges and motivate teams to push on. I give Mark my highest recommendation to anything he wants to take on. He will be a rare gift to the next company he works with.

— Aimon Bustardo, Lead DevOps Engineer, Desk.com

Mark was one of my favorite people to work with at Teradata — the energy he brings to the projects and teams he works with is infectious. Mark's leadership style stems not only from his energy, but his expertise as a DevOps Engineer. He is respected by colleagues at all levels and is a huge asset for any modern engineering organization.

— Tim McIntire, VP Shared Services, Teradata

Mark is one of the few people I know who can truly perform well in a player/coach role. While his technical chops may be second to none, he combines those chops with a natural ability to lead from the front. He would most certainly be a valuable asset to any team lucky enough to have him.

— Jason Reslock, Lead DevOps Engineer, OM1

Possibly the best reason I looked forward to going to work everyday is because of the opportunity to work closely and be mentored by Mark. I see him as a true software craftsman who is passionate about code and cares a lot about code quality, readability and testability. He can lead teams, mentor teammates, commit production code within time and budget while giving a helping hand with whatever is the issue of the day.

— Bert Diwa, Sr. QA/Automation Engineer, Verizon

[Mark] produced solid designs. He was an expert at Python (and apparently Ruby too). He seemed to know about every Open Source project out there. His mastery of all things Git and GitHub were critical support to several of us who had never used Git before. All in all, Mark was an invaluable resource to the project and to the team. He seemed to get his dozen projects done in time while simultaneously providing whatever technical support was being asked of him by the team.

— Jay Riddell, Sr. Web Designer, Davis Instruments

Mark was a particularly able and focused student, capable of working independently and evaluating ideas and approaches critically. His particular interest at the time [while studying at the Australian National University] was the role, design and development of business incubators as a tool for regional development.

— Don Scott-Kemmis, Innovation Policy Consultant

A Few Open Source Projects

- **Open vSwitch Lab** - A Vagrant project which provisions two machines that talk over a simulated Internet. The lab is a companion project for the series of articles I wrote about [VXLAN](#), [OVSD](#), and [the hardware VTEP schema](#). [Source in Github](#).
- **Aviator** - A lightweight Ruby client library for cloud REST APIs. I initially built this for the OpenStack API. My focus was to build a library that reflected, rather than obscured the underlying API. [Homepage](#).
- **Mana Mana** - A proof-of-concept business natural language testing framework that was inspired by Cucumber and the Robot framework. This was borne out of my never-ending search for better ways to write maintainable automated tests. [Source in Github](#).
- **Others** - I also contribute to other open source projects and you will usually find it in my [activity feed on Github](#)

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