Angelo **Failla**

STAFF SITE RELIABILITY ENGINEER

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"The best way to complain is to make things."

Summary

Engineering leader with 25+ years of experience, including 14 years at Meta/Facebook, specializing in large-scale systems and organizational leadership. Proven track record in delivering projects, leading teams, and driving technical direction across organizations.

Extensive experience in infrastructure and data center automation, with expertise in system architecture, incident management, and cross-functional collaboration. Track record of successful technical leadership and organizational influence at scale.

Demonstrated versatility in roles ranging from hands-on technical work to strategic leadership, including coding, system architecture, incident response and coordination (IMOC, Incident Manager OnCall), mentoring engineers/interns, and public speaking at conferences (view talks).

Seeking senior leadership role to leverage experience in team direction, business alignment, and infrastructure reliability. Proven ability to drive improvements across technical and organizational boundaries while focusing on solving critical business problems.

Experience

Meta(Facebook)
Dublin, Republic of Ireland

STAFF PRODUCTION ENGINEER (IC6)
March 2011 - Present

Progressed from IC3 to IC6, advancing from being an IC3 on a Tier 1 with infrastructure-wide support responsibilities to leading critical datacenter automation initiatives in the bare metal provisoining space. Lately I have spearheaded an effor to transform the way we manage the Operating System for Meta's custom network switch infrastructure (FBOSS), focusing on scalability, reliability, ownership and time to provision improvements.

March 2011

April 2014

SITE RELIABILITY ENGINEER (SRO TEAM)

I joined Facebook in 2011 as a Site Reliability Engineer (SRE) in the Site Reliability Operations (SRO) team. The SRO team was a follow the sun team, with a sister team in Palo Alto, responsible for being the first responder for the reliability of the entire Facebook infrastructure. This gave me the opportunity to learn a lot about internal technologies and systems. I learned how to manage systems at scale, how to deal with incidents/disasters. Being based in Dublin gave me the opportunity to work during quiet mostly incident free hours, which has allowed me to focus on automation and tooling.

- Contributed to the development of internal tooling like FBAR, Facebook Auto Remediation, HostChangeLog, etc
- Performed emergency hotfixing and pushing of the www application
- Performed cluster maintenances: kernel updates, OS updates, host reprovisioning, and others
- Troubleshooted broken hardware and software issues
- Contributed migrating fleet from `cfengine2` to `chef`
- Architected and implemented Facebook's initial `netconsole` monitoring system for kernel-level diagnostics. The solution leveraged Linux netconsole module to capture kernel printk messages via UDP/syslog, enabling critical debugging capabilities when disk logging was unavailable. Designed and deployed a scalable architecture using cluster-based rsyslog daemons integrated with `scribe` infrastructure. This foundational work later evolved into netconsd, now maintained by the Kernel Platform Engineering team.

April 2014
2022

PRODUCTION ENGINEER (Teams: ClusterOps -> ClusterInfra -> Host Provisioning Engineering -> DC Bootstrap)

Following the successful automation of the SRO team's core responsibilities, the team was strategically dissolved and members were presented with opportunities to transition into new specialized focus areas. While several colleagues moved to product teams, I chose to remain in infrastructure by joining the ClusterOps team. This team managed essential infrastructure services including DNS, LDAP, NTP, DHCP, TFTP, and bare metal provisioning systems. During this period, I achieved several significant technical milestones:

- **DHCP Infrastructure Modernization**: Led the complete redesign of Meta's DHCP infrastructure, implementing ISC KEA with custom C++ hooks for internal system integration. This initiative significantly improved reliability and scalability. Presented the architecture at SRECON EMEA 2015 and was featured in the ISC's blog.
- **IPv6-only Initiative**: Collaborated on a critical infrastructure project to transition data centers to IPv6-only addressing, addressing RFC 1918 address space constraints. Led the adaptation of the PXEboot stack and OS installation systems to support IPv6-only environments, contributing to Meta's pioneering IPv6 adoption and praised by the Internet Society.
- **More DHCP infrastructure improvements**: Architected and implemented `dhcplb`, a high-performance DHCP load balancer in Go. The project evolved from a hackathon prototype to a production-grade solution, featuring IPv6 support and sophisticated load balancing algorithms. The initiative spawned an industry-adopted open-source DHCP library and later expanded to include server-side functionality, becoming a cornerstone of Meta's network infrastructure.
- Spearheaded the modernization of the PXEboot infrastructure, leading a complete rewrite from Python to Go to enhance performance and reliability.
- Led the team in developing of a custom OS installation solution, replacing traditional RedHat anaconda/kickstart systems with an optimized, more highly integrated with Facebook's infra, purpose-built installer utilizing custom bootloader, ramdisk and an initrd based on u-root.

2022
Present

PRODUCTION ENGINEER (Network OS team)

In 2022 I convinced leadership to start a new team to focus on redesigning the Operating System for Meta's custom network switch infrastructure.
- The design took a different approach from the traditional way of managing operating systems at Meta where a vanilla OS is installed and then configured with puppet/chef/ansible. This was taking too much time and was not reliable enough.
- The new approach consistent in building immutable images that are then deployed to the switches. The images are built with all the necessary configuration and software pre-installed. This brought down provisioning time from hours to 15 minutes.

NewBay Software
Dublin, Republic of Ireland

SENIOR DEPLOYMENT ENGINEER
February 2008 - March 2011

Newbay Software provided digital content services, like photo storage, blogging and social aggregator platforms, primarily for telecommunication clients like T-Mobile and Telstra. The company was acquired by RIM and subsequently sold to Synchronoss Technologies.

- Managed software deployment and customer integration projects for major telecommunication clients, including T-Mobile (Germany/US) and Telstra (Australia).
- Provided advanced troubleshooting and issue resolution for MMS, SMS, standalone, and web-based applications.
- Developed and maintained software deployment tooling.
- Executed front-end deployments, ensuring seamless user experience and functionality.
- Configured and deployed VPNs with various telecommunication companies to establish secure SMS/MMS gateways.
- Proficient in a diverse technology stack, including Cisco IPSEC VPNs and networks, Oracle/MySQL databases, Java Messaging Systems, F5 BigIP Load Balancers, Red Hat and Solaris operating systems, and Tomcat/JBoss application servers.

MOVIA SpA
Catania, Italy

UNIX SYSTEM AND NETWORK ADMINISTRATOR, PROGRAMMER AND IT CONSULTANT
September 2005 - January 2008

- Administered and maintained the company's corporate network infrastructure across three Italian offices (Rome, Milan, Catania).
- Managed and secured the corporate intranet utilizing OpenVPN and Cisco routers.
- Oversaw the company's web presence, mail servers, mailing lists, version control systems (CVS), and internal ticketing systems.
- Provided expert consultation to Nokia Italy, Vodafone Italy, and LogicaCMG on an as-needed basis.

ComputerLine SRL
Catania, Italy

UNIX SYSADMIN AND NETWORK ADMINISTRATOR
December 2004 - September 2005

Small web agency providing web hosting, web design, and IT consulting services to local businesses.
- Ordinary maintenance of internet services like DNS server, Web servers, FTP servers, Mail servers etc.
- DNS domains registration and maintenance.
- Troubleshooting and, technical support for customers and internal staff.

UZED@ SRL
Catania, Italy

WEB DEVELOPER AND SYSTEM ADMINISTRATOR
December 2004 - September 2005

Small web agency providing web hosting, web design, and IT consulting services to local businesses.
- Ordinary maintenance of internet services like DNS server, Web servers, FTP servers, Mail servers etc.
- DNS domains registration and maintenance.
- Troubleshooting and, technical support for customers and internal staff.

University of Catania, Department of Engineering *Catania, Italy*

Web developer *January 2001 - December 2002*

I was responsible for building and maintaining the students e-learning portal.

Infozoo Project *Catania, Italy*

Visual Basic developer *January 2001 - March 2002*

Small software house developing software for the retail sector. I have worked as a Visual Basic coder, my mainly responsibility was writing drivers to enable communication between electronic scales (on RS232).

Publications

Public talks

2016 **FBTFTP: Facebook's open source python3 framework for dynamic TFTP servers,** EuroPython 2016 *Bilbao, Spain*

2015 **DHCP Infrastructure Evolution at Facebook,** SRECon EMEA 2015 *Dublin, Ireland*

2014 **Python @ Facebook,** Pycon Ireland *Dublin, Ireland*

Other publications & mentions

2019 **Extending DHCPLB: The path from load balancer to server** *Online*

2016 **DHCPLB: An open source load balancer** *Online*

2015 **Interview on the ISC's blog,** How Facebook is Using Kea in the Datacenter *Online*

2015 **Using ISC Kea DHCP in our data centers** *Online*

2014 **Looking back on "Look Back" video** *Online*

Education

Università degli studi di Catania *Catania, Italy*

B.S. in Computer Science and Engineering *1999 - 2005*

Completed 10 of the 30 exams while juggling tech jobs, then chose to leave to explore new opportunities and secure full-time work.

Publicly accessible projects

Yubiswitch *github*

Objective-C, C

A macOS status bar application to enable/disable your Yubikey's OTP functionality. Mentioned in YubiCo's blog post. This project started as a personal itch to scratch, but later I discovered it had been installed by many users and tech employees at Meta. I then learned it was also being used by employees at Apple, Google, and other big tech companies.

dhcplb *github*

GOLANG

A DHCP load balancer and server running at Meta's datacenters. For the full story of how the project was born and went from hack-a-thon project, to summer internship to production read this post in Meta's engineering blog.

fbtftp *github*

PYTHON

fbtftp is Facebook's implementation of a dynamic TFTP server framework. It lets you create custom TFTP servers and wrap your own logic into it in a very simple manner. Facebook used it in production, and was deployed at global scale across all of data centers before being replaced by a golang implementation first, and a rust implementation later.

Extracurricular Activity

Long distance cycling (aka randonneuring/audax)

I have completed several 200km, 300km, 400km, and 600km rides. I have particpated to the 1200km Paris-Brest-Paris twice: once in 2019 (had to scratch after 600km) and in 2023 (finished with a few hours to spare).