Florian Vichot

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Principal Site Reliability Engineer

An accomplished software engineer, I have over fifteen years of experience in both development and operations. Well-versed in multiple programming languages, tools and technologies, I'm also a seasoned technical leader and mentor. While mostly drawn to SRE roles, I welcome all opportunities that would allow me to work on challenging and varied problems as part of a talented team. Organisations building open-source software or serving the public interest are especially attractive.

SKILLS

- Track record of advancing code and infrastructure quality, performance and maintainability
- Skilled at navigating and mastering complex software codebases
- Dedicated to automate time-consuming and error-prone tasks
- Experienced in leading teams, acting as technical referent, mentoring other engineers
- Effective at helping teams plan and prioritise work, negotiating roadmaps with stakeholders
- Pragmatic approach to complex problems, from tactical short-term goals to long-term strategic vision

EXPERIENCE

Cisco Meraki — Remote, Australia

- **Principal Engineer - SRE** — *February 2023 to now*
  - Acted as **technical advisor** for Platform Engineering, a grouping of 7 SRE teams, by building a shared vision, reviewing solutions, unblocking engineers, initiating workgroups, promoting cross-collaboration.
  - **Mentored** several Technical Leads, with weekly one-on-ones with each to discuss technical challenges, career aspirations and leadership development.
  - Continued to help lead the monolith transition into Kubernetes, by **running sprints**, writing **design docs**, contributing code, reviewing solutions, giving progress demos to stakeholders.
- **Senior Technical Leader - SRE** — *May 2021 to February 2023*
  - Continued to lead the Kubernetes implementation. Grew it to over 40 clusters worldwide, including **AWS China**, and **FedRAMP**-certified clusters. Added support for **ArgoCD**, **ingress-nginx** and **AWS BYOIP**.
  - Identified a memory leak in the Linux kernel as the source of server crashes using **bpftrace** and the **crash** kernel debugger. Implemented a remediation as a **kernel module**, which over 18 months mitigated over 25,000 leaks, avoiding thousands of server crashes.
  - Kick-started a **multi-year initiative** to migrate our monolith from bare-metal into Kubernetes, using custom tools and services. Co-lead a squad of engineers to implement an **MVP**.
- **Technical Leader - SRE** — *March 2019 to May 2021*
  - Led the design and implementation of Meraki's EKS-based **Kubernetes** platform, provisioned using **Terraform** and **Helm**. It included **Grafana** SLO/SLI dashboards, **Fluentd/Kinesis** logging pipeline, **Okta** authentication, **Statsd**/**Prometheus** metrics collection, **Gitlab** CI deployments, **Kyverno** admission control, strict default **Pod Security Policies** and **Network Policies**.
  - Designed and implemented a **Haproxy**-based on-prem proxy infrastructure, for exposing customer-facing services running in EKS on IP ranges owned by Meraki. At peak, it was handling 3 million concurrent connections.
  - **On-call** in a follow-the-sun schedule. Triaged **PagerDuty** alerts, investigated root-causes, deployed remediations or rollbacks, ran post-mortems.

VMTech — Sydney, Australia

- **DevOps Engineer** — *August 2018 to February 2019*
  - Design and implementation of a customer-facing graphs dashboard, using **Python**, **SQLAlchemy** and **Flask**, using APIs from Splunk, ElasticSearch, ScienceLogic EM7, CommVault and ServiceNow.
  - Improving automation scripts (a mix of Node.js, Python, Bash) for monthly report generation.

Wifirst — Paris, France

- **Infrastructure & Automation Engineer** — *April 2016 to May 2018*
  - Management of over 10,000 **Linux** routers using **Ansible**, to provide internet to ~500,000 users.
  - Developing **Python**/**Bash** services to configure **iptables**, routes, and supervision on Linux routers.
  - Designing and evolving our monitoring infrastructure for a large volume of data (150,000 devices supervised) using **Python**, **Nginx**, **Django**, **PostgreSQL**, **Redis**.
  - Writing code to configure various network equipment: **Cisco**, **Zyxel**, **DLink**.
  - Speaker at PyCon France 2017.

Inria, Asclepios Lab — Sophia-Antipolis, France

- **Senior Software Engineer** — *March 2012 to April 2015*
  - Lead developer on medInria, a **C++**/**Qt** open-source medical image visualisation, processing and manipulation software, to add cardiac related functionalities.
  - Setup **CI/CD** using **Jenkins**, to test and build software on **Debian**, **Fedora**, **OSX** and **Windows 7+**.
  - Improved the reliability of medInria and its code quality by instituting code-reviews and a pull-request based workflow. Migrated the project to **GitHub**, reorganised, cleaned and simplified the source code, re-architected and updated the build/test system.
  - Evolved medInria's architecture to handle new functionalities, and transformed it into a framework for other projects using a plugin system.
  - Attended and presented at conferences (MICCAI), workshops (CTK), and contributed to scientific articles.

Telecoms Without Borders — Pau, France

- **Systems & Network Engineer** — *Sept. 2010 to Oct. 2011, April 2015*
  - Deployed on various international missions in response to humanitarian emergencies: floods, influx of refugees, cyclone, conflict or famine, for a total of 5 months on mission. Established telephone operations for populations, installed **network and satellite equipment** for NGOs and the UN. Provided trainings.
  - Maintained and evolved the NGO's infrastructure (**website**, **email servers**, **storage server**, **equipment database**, **OpenBSD firewall**).
  - Contributed to the TSFBox, a custom **Linux** router facilitating monitoring and optimization of internet connections provided during missions, with services written in **Perl**.

Diateam — Brest, France

- **Software Engineer** — *June 2008 to April 2010, July/August 2007*
  - Implemented a multithread RPC framework in **C++/Qt4**, and its **code generator** and **test suite**.
  - Lead developer on the Hynesim open source project (Hybrid Network Simulator): implementation in **C++/Qt4** of virtual network components, custom GUI widget and of wrappers around different virtualization technologies (**OpenVZ/LXC** containers, **Qemu/KVM** VMs) using **livbirt**. Speaker for conferences at OSSIRB and Hack.lu 2008.
  - Contributor to IpMorph : **TCP/IP stack** fingerprint spoofing for **containers** and **VMs**. Speaker during Hack.lu 2009. Co-authored a publication.

EDUCATION

- ENIB, National Engineering School of Brest, France from 2003 to 2008 (Master's Degree in Engineering).

PUBLICATIONS

Cardiac Interventional Guidance using Multimodal Data Processing and Visualisation: medInria as an Interoperability Platform — Midas Journal — *2012*
Authors: F. Vichot, H. Cochet, B. Bleuzé, N. Toussaint, P. Jaïs, M. Sermesant

> MedInria is a medical imaging application developed at Inria, which aims to provide clinicians with state-of-the-art algorithms for processing and visualising their images. In this article, we focus on its use in pre-surgery preparation for cardiac interventions, and the difficulties arising from the lack of standardisation of certain data formats and visualisation conventions.

IpMorph: fingerprinting spoofing unification — Journal in computer virology 6, no. 4 — *2010*
Authors: G. Prigent, F. Vichot, F. Harrouet

> Nowadays, there are a variety of tools for easily identifying the TCP/IP stack's fingerprint of a target machine. IpMorph allows this fingerprint to be concealed, and even mimicks the fingerprint of a chosen TCP/IP stack. This is done through live session tracking and packet rewriting. Its effectiveness against tools such as Nmap, Xprobe2, Ring2, SinFP and p0f is also detailed.