

# Jonathan Dieter

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## Profile

Experienced systems architect with a proven record in using the latest in open source technology to automate IT infrastructure administration and improve development processes

## Professional Experience

### Spearline

*Head of Software Services*

Skibbereen, Ireland

*Jan 2020 – Present*

- **Directly managing a team** of 3 software engineers with full responsibility for developing the company's IT infrastructure.
- **Creating and indirectly managing a team** of 4 software engineers with responsibility for improving monitoring, responding to infrastructure outages, and handling internal tickets
- **Implementing best practices** around the company development process using containerization to facilitate reproducible builds, while improving the CI/CD pipeline
- **Overseeing infrastructure security**, making sure vulnerabilities are patched quickly (the highest severity being fixed within 24 hours), and setting up simulations to prepare the team to respond to security incidents.
- **Managing AWS infrastructure and billing**, reducing the size of overpowered instances and using savings plans and spot instances (where applicable) to reduce our costs.
- **Automating deployment of company infrastructure** using ansible, reducing the amount of work required in setting up and maintaining our infrastructure by roughly 20 times.
- **Designing and maintaining a new ostree-based operating system** for use on our servers around the world, allowing us to do image based updates and separate responsibility for operating system maintenance from application maintenance.
- **Overseeing the expansion of our global server infrastructure** as it over doubled in size, while managing upgrades of our older servers from an end-of-life operating system to our new custom operating system.
- **Designing and deploying a VPN to multiple global regions** to secure our global server infrastructure. The VPN was built using the Wireguard protocol, with automatic failover using Amazon Global Accelerator, where call servers and employees automatically connect to the closest server
- **Creating and implementing a plan to upgrade database structure with no downtime.** This involves a transition from a single over-normalized database (multiple tables with the same primary key) to a clustered database with a normalized schema.
- **Designing and building a REST API for internal and external use** with the new database structure. This API is allowing us to implement security controls for accessing our data that wasn't available with our previous systems.

## Sangoma

Software Engineer (Cloud Development Team)

Remote

May 2019 – Dec 2019

- **Upgraded customer cloud deployments** of the Switchvox telephony appliance to a new version with a different CPU architecture, and helped maintain the customer-facing portal for purchasing new Switchvox cloud deployments

## Spearline

NOC Engineer

Skibbereen, Ireland

Nov 2018 – Apr 2019

- **Designed and built an automated test-based development pipeline** in the cloud to facilitate company transition to test-based development methodology.
- **Containerized customer facing web applications** for easier testing and deployment
- **Deployed an Amazon ECS cluster** to increase uptime of customer facing web applications, making them highly available

## Lebanon Evangelical School

Senior Systems Administrator

Loueizeh, Beirut, Lebanon

Sept 2004 – July 2018

- **Led a small team** of three other system administrators, eventually training one to be my replacement.
- **Set up a LizardFS distributed filesystem** to store data for users logging into our system
- **Created a custom OpenWRT firmware** for our consumer-grade wireless access points that configured the access point and gracefully handled network disconnections, and then split the network into separate VLANs
- **Created and maintained a web-based grading system** accessible by students, staff and parents, complete with an internal mirror kept up-to-date using MySQL replication
- **Automated notifications of outages** and sub-optimal service performance using Nagios

## Other Experience

### Fedora Project

Packager (Volunteer)

April 2007 – Present

- **Created and packaged zchunk**, a compression format designed to have highly efficient deltas. Fedora uses zchunk to reduce the amount of metadata that users download when checking for package updates.
- **Maintain the LizardFS distributed filesystem** in Fedora and EPEL

### Programming languages

I am proficient in the following programming and scripting languages

- Python
- C
- PHP
- Bash

### Upstream work

Submitted bugfix patches and had them approved in the following projects:

- Linux kernel (USB/IP userspace)
- oVirt
- Ceph
- iPXE
- rpm-ostree
- podman

### GitHub profile

- <https://github.com/jdieter>