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# Christian Rebischke

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## Employment

**Student Assistant** — **TU Clausthal, Datacenter** — **Apr 2016 — April 2020**

- Built a proof of concept for deploying Virtual Tunnel End Points (VTEPs) with Ansible on Linux machines for EVPN BGP/VXLAN.
- Implemented an automated system in Python for fetching IPS firewall alerts via REST API and mailing them to responsible system administrators. This reduced the toil of writing 5–25 mails daily manually.
- Improved system security and reliability by setting up an OpenVAS vulnerability scanner.
- Reduced MTTR from one work day to one hour by automating a Freeradius/Radsecproxy/MySQL based AAA infrastructure with Ansible.
- Showed ownership by maintaining a Proxmox VE cluster consisting of 25 physical nodes.
- Designed and implemented a command line tool in Python for deploying TLS certificates and private keys on a central firewall for inbound TLS inspection.
- Evaluated Kubernetes for increasing reliability and introducing micro segmentation via namespace segregation
- Set up a distributed monitoring system with the help of Traefik, Prometheus and Grafana for monitoring Service Level Indicators (SLIs) for different institutions within the university campus.
- Gave a talk about Freeradius and Radsecproxy deployment via Ansible on the DFN-BT (annual German research network meetup): [1]
- Achieved a relation of LDAP users and IP addresses for writing user/IP specific firewall rules via implementing a REST API as middleware between a proprietary service, Freeradius and OpenVPN.
- Additional key technologies being used: NSCA, NRPE, SNMP, Nginx, Apache, NAPALM, Ansible, NFSv4 over Kerberos, Elasticsearch, Logstash, Kibana, Ansible, REST APIs, Docker.

**Student Assistant** — **TU Clausthal Inst. of Software Systems Engineering** — **Oct 2016 — Sep 2017**

- Build a tool chain for exporting Matlab Simulink models into the Functional Mockup Unit (FMU) format.
- Developed components for a model transformation tool suite in the project *Spectral Analsysis of Software Architecture*
- Enhanced code quality by establishing the Continuous Code Quality tool Sonarqube.
- Key technologies being used: Java, Gradle, Matlab, SVN

**Student Assistant** — **TU Clausthal Inst. of Mathematics** — **Apr 2014 — Sep 2017**

- Increased system reliability by monitoring via the Nagios fork Centreon.
- Build software packages for Ubuntu (deb) and CentOS (rpm).
- Has been the system administrator for Linux and Windows machines and gave first level support.
- Technologies being used: Bash, NFSv4 with Kerberos, Apache, CUPS, MySQL.

## Education

**B.Sc. Computer Science** — **Technical University Clausthal** — **Oct 2013 — May 2019**

- Seminar paper: Amazon AWS (EC2 virtual Server and EC2 container) (German) [2]
- Seminar paper: Openstack (internal structure and overview) (German) [3]
- Seminar paper: Tor (a short introduction in The Onion Routing) (German) [4]
- Bachelor thesis: Evaluation of a distributed monitoring system for the TU Clausthal Campus (German) [5][6]

**M.Sc. Computer Science** — **Technical University Clausthal** — **Oct 2018 — Oct 2020**

Current project is finding a theoretical approach for micro service identification and characterization for service matching via the Semantic Web and Ontologies in the research project *Basic technologies and engineering methods for emergent genesis and semantic composition of IoT ecosystems*. The research project will be finished in April 2020.

## Open Source Contributions

**Arch Linux** `https://archlinux.org` **Jan 2015 — Now**

- **Security Advisories** Verifying known Common Vulnerabilities and Exposures (CVEs) in Arch Linux packages.
- **Hardening** Improving security of Arch Linux packages and infrastructure.
- **Package Maintaner** Building source code into Arch Linux binary packages for distribution, committing patches and supporting the community.
- **Release Engineering** Vagrant, qcow2 and Docker image builds for Arch Linux.

**Projects** `https://github.com/shibumi`

- **Arch Linux Boxes** Building reliable infrastructure for automated monthly Vagrant and qcow2 image builds with Ansible and Hashicorp Packer. This project includes a small python script that reduces the toil of 1 hour per month to manually check for the monthly needed fresh Arch Linux ISO image. [7].
- **nullday.de** My personal blog with a 100/100 TLS rating [8], a 130/100 HTTP headers rating [9] and a 100/100 Google PageSpeed Insights rating.
- **htpwd** A Go implementation of Apaches *htpasswd*.[10]
- **ryoukai** My i3 statusbar written in Go.[11]
- **nspawn.org** A hub for systemd-nspawn container images and bootable GPT machine images available on `https://nspawn.org`
- **SRE-Cheatsheet** Cheat sheet for beginning Site Reliability Engineers: `https://github.com/shibumi/SRE-cheat-sheet`

## Languages, Additional Technologies and Interests

- **Natural Languages** German, English
- **Programming Languages** Bash, Python, Golang, C, C++, Java, x86 Assembly
- **Interests** Site-Reliability Engineering, Devops, Network Infrastructure, Reverse Engineering, Forensics, Penetration Testing, Red Team/Blue Team, Blackbox/Whitebox Testing, Malware Analysis, Server Hardening, Network Security.

## Footnotes

[1] `https://www.dfn.de/fileadmin/3Beratung/Betriebstagungen/bt70/BT70_MobileIT_Konfiguration_FreeRADIUS_und_radsecproxy_mit_Ansible_Strauf_Rebischke.pdf`

[2] `https://github.com/shibumi/aws-ec2-project-paper`

[3] `https://github.com/shibumi/openstack-project-paper`

[4] `https://github.com/shibumi/Tor-project-paper`

[5] `https://github.com/shibumi/bachelor-thesis`

[6] `https://github.com/shibumi/bachelor-kolloquium`

[7] `https://github.com/archlinux/arch-boxes`

[8] `https://www.ssllabs.com/ssltest/analyze.html?d=nullday.de`

[9] `https://observatory.mozilla.org/analyze/nullday.de`

[10] `https://github.com/shibumi/htpwd`

[11] `https://github.com/shibumi/ryoukai`