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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.
- 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 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, NFSv4 over Kerberos, Elasticsearch, Logstash, Kibana, Ansible, Python-Flask, Docker, Git.

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

- Built 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

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.

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

- Seminar paper: Amazon AWS (EC2 virtual Server and EC2 container) [2]
- Seminar paper: Openstack (internal structure and overview) [3]
- Seminar paper: Tor (a short introduction in The Onion Routing) [4]

- Bachelor thesis: Evaluation of a distributed monitoring system for the TU Clausthal Campus [56]

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, Open Source, Malware Analysis, Systems 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`