Nico **Berlee**

PRINCIPAL ARCHITECT

⚥ Male | 🌐 Dutch

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Summary

Current Principal Architect at Cyber Security Specialist ON2IT. Almost 20 year of experience in Sys/Net/App Management and Architecture. Last year, assumed a position in a key strategic role within ON2IT, responsible for shaping the future of the company's IT infrastructure and cybersecurity solutions.

Achitected and designed ON2IT's datacenters and public cloud environments, responsible for innovative development of new architecture and environments. Using my broad knowledge in innovative technologies is my strength and focus.

Before joining ON2IT, I was responsible for the day-to-day IT environment of a mid-sized educational organisation, managing a small team. In addition, I am a contributer to various open-source projects and co-organiser of meetups.

Innovative and forward-thinking, with a passion for exploring new technologies and methodologies. Analytically strong, with the ability to identify opportunities for optimization and improvement. Persistent and ambitious, driven to excel in a challenging and dynamic environment. Pragmatic and open-minded, able to quickly adapt to new situations and challenges.

Skills (design, implementation & operation)

DevOps	Docker, Google Cloud, Terraform, Gitlab, Grafana, Istio, Jaeger, Kubernetes, Ceph, Rook
Database/Queues	Beanstalkd, CouchDB, Elasticsearch, Cassandra, Etcd, Galera, NATS, Prometheus
Networking	BGP, ECMP, IGMP, Ipsec, Wireguard, IPv6, MLAG, MSTP, OSPF, PIM, VRRP
Script-/Programming	Bash, Golang, Javascript, Python, PHP, Powershell, SQL, VBScript

Work Experience

ON2IT B.V. *Zaltbommel*

PRINCIPAL ARCHITECT *Feb 2022 - now*

- Design and implement secure, scalable, and efficient IT architectures for ON2IT's data centers and public cloud environments, overcoming technical challenges and limitations.
- Collaborate with various team heads to ensure the alignment of IT architecture with the company's cybersecurity and business goals.
- Continuously evaluate and optimize existing IT infrastructure for performance, security, and cost-effectiveness, identifying and addressing any limiting factors.
- Research and adopt innovative technologies and methodologies to enhance ON2IT's IT capabilities and services, staying ahead of industry trends.
- Ensure the compliance of IT architecture with best practices, while proactively addressing emerging threats and vulnerabilities.
- Provide technical guidance and mentorship to other IT professionals within the organization, fostering a culture of continuous learning and improvement.
- Develop and maintain a comprehensive understanding of industry trends, emerging technologies, and best practices in IT architecture and cybersecurity, leveraging this knowledge to inform strategic decision-making.
- Drive a culture of continuous improvement, fostering collaboration and knowledge sharing across the organization, and encouraging the adoption of best practices and innovative solutions.
- Evaluate and manage third-party vendor relationships to ensure the delivery of high-quality, cost-effective solutions, while addressing potential risks and limitations.

ON2IT B.V.
Waardenburg / Zaltbommel

Lead Site Reliability Engineer - Software Architect
juni 2016 - Feb 2022

- Created infrastructure-as-code to provision or upgrades a redundant, scalable, declaritive, reproducable GCP infrastructure for the US in 20 minutes including Palo Alto Firewalls, Talos OS VMs, Kubernetes cluster (including all deployments) and BYOIP.
- Forked etcd-operator and revived it for support of latest apis. (ETCD / Kubernetes)
- Used Keycloak as a centralized identity provider for all OAuth/OIDC/SAML service providers within the company.
- Implemented a online redundant ACME CA server using Smallstep CA to automate internal certificate issuing.
- Created independent two redundant storage clusters for Kubernetes using Ceph RBD.
- Created a Kubernetes cluster as development/acceptation environment for the devvers using Devspace to provision and segregate environments.
- Built a fully automated CI/CD pipelines on Gitlab for gitops deployments in all Kubernetes clusters using Kustomize, Kubesec, Kubeval, Clair, Git-sync and Kube-applier amongst others.
- Deployed separate production clusters in 3 DCs with Kubernetes using, Containerd, Cilium (directly routed, with eBPF forwarding to Istio), Istio (with mTLS, RBAC and SDS), Metallb (iBGP), Fluentd, VPA, Rook-ceph (only for non GKE clusters).
- Created a monitoring infrastructure for container-metrics, with various Prometheus-exporters, Prometheus rules, Alert Manager and Grafana.
- Created a Kubernetes shared informer controller in Golang for dynamic ip and Kubernetes labels registration in Palo Alto Firewalls to enable finegrained egress policies per label/namespace.
- Deployed MariaDB/Galera cluster (multi-master) inside Kubernetes, spanning 3 DCs, with automated recovery of complete cluster failure (Galera cluster bootstrapping) and events less radical using etcd for maintaining cluster node state.
- Setup high-available IPAM with automated DNS registration to PowerDNS (automated DNSSEC signing) on a Galera cluster.
- Anycasted internal DNS resolvers (with healthchecks) using OSPF.
- Deployed a centralized logging environment with Graylog and Elasticsearch cluster for high log ingestion.

Udens College
Uden

System Administrator
oct. 2005 - may 2016

- Managed +/- 1200 clients using MS Configuration Manager.
- Responsible for the architecture, implementation and operation of the whole network and server infrastructure, without outside help.
- Made multiple templates and webparts in C# for Sharepoint.
- Implementented IPv6 on the BYOD network and Netscaler.
- Kerberos Contrained Delegation for SSO to all webservers.
- Made a MS NPS (radius) plugin for IP-username combination sync to the Palo Alto Firewall for UserID.

Udens College
Uden

Project lead
jan. 2004 - aug. 2005

- Migrated Novell Netware environment to Active Directory (completely scripted for clients).
- Implemented Microsoft ISA 2000/2004.
- Migration of IP subnets.
- Intra-domain migration.
- Implemented Windows 2003 domaincontrollers.

Certificates

2021-12	**Certified Kubernetes Security Specialist**, The Linux Foundation	*LF-d49uicz9po*
2021-12	**Certified Kubernetes Administrator**, The Linux Foundation	*LF-e2zyw3t4ag*
2021-12	**Certified Kubernetes Application Developer**, The Linux Foundation	*LF-55lc07p3xa*
2018-12	**Certified Kubernetes Administrator**, The Linux Foundation	*CKAD-1800-0317-0100*
2018-12	**Certified Kubernetes Application Developer**, The Linux Foundation	*CKA-1800-001225-0100*

Social

ON2IT Cyber Security Meetups
Waardenburg / Zaltbommel

Co-organiser
may 2018 - now

- Azure security with Network Virtual Appliances (NVA)
- Capture the flag workshop: Hack your way out of / Be hacked from a container - do we need gVisor?
- GNS3 meets Cumulus Networks
- Introduction to Kubernetes
- Kubernetes & ISTIO
- Fast-Paced-CTF (family style)
- Kubernetes - Networking & Security
- Fast-Paced-CTF #2 (family style)

G1000 Uden
Uden

Core team member
apr. 2014 - apr. 2016

- The G1000 is a working method to achieve deliberative and participatory structures in representative population by lottery. I was part of the G1000 core team from the start.
- During the G1000 event in Uden on October 4, 2014 I was the program manager.

Municipality council Uden *Uden*

Municipality council committee member for D66 *apr. 2014 - apr. 2016*
- Council committee member General Affairs.
- Member of the Audit Committee.
- Reserve at Spatial and Economic Development Committee.
- Reserve at Public Affairs Committee.

D66 Uden *Uden*

Local elections campaign coordinator *jan. 2014 - apr. 2014*

Homeowners association Oranjestraat 14B T/M Z *Uden*

Chairman *jan. 2011 - sept. 2014*
- Cut structural costs of the HOA.
- Improved communication between residents and management & between management and hired maintenance contracters.
- First Home Owners Association in Uden to realize solar panels on an appartement building, by reaching consensus among the owners.