

Guido Maria Serra

SITE RELIABILITY & SECURITY ENGINEER · KUBERNETES & IDENTITY MANAGEMENT SPECIALIST

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Profile GNU/Linux system professional with **30 years of experience**. Mediator, coach, and infrastructure architect during organizational restructuring. Early adopter of Cloud Native (since 2016). Fan of Kubernetes, Traefik (contributor), ArgoCD, and SealedSecrets.

Core Competencies

Cloud Native	Kubernetes, ArgoCD, Traefik, SealedSecrets, Cilium, Terraform, OpenStack
Security & Identity	Keycloak, OIDC, LDAP/Kerberos, Active Directory, Vault, WAF (Cloudflare/Fastly), SIEM (ELK)
Observability	ELK, Prometheus, Grafana, OpenTelemetry, CI/CD (GitLab/Jenkins)
Languages	C, Python, Go, Bash, Ruby, SQL

Professional Experience

CONTRACTOR – SECURITY & INFRASTRUCTURE ENGINEERING (2018 – PRESENT)

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Berlin, Germany / Predore, Italy

CONTRACTOR

- **DFND Security** – WAF/Edge Security (Fastly Signal Sciences); DDoS protection; DMZ hardening.
- **Forward Earth** – ISO 27001 certification; Vanta Auditor training; compliance automation.
- **3T Labs** – TeamCity & Terraform (GCP) for CI/CD pipelines; 2 consecutive contracts over 1.5 years, re-engaged by request.
- **FinTech Stealth** – Python/TypeScript automation workflows; load testing and reverse engineering.
- **Octostar** – GPU-backed Kubernetes clusters for ML training/inference; ClickHouse/MinIO data platform.
- **ClovrLabs** – Cloud Architect, Blockchain Reputation unicorn (Barcelona)
 - Provided cloud design best practices; designed a clean, maintainable AWS EKS (Kubernetes) setup.
 - Executed run-time code profiling, load and performance testing; evaluated on-premises sizing.
 - Used Cilium for network policies and security.
 - Mentored 5-person security ops team.
- **Prima Assicurazioni**
 - Coached 12-engineer SRE team on blameless culture and incident response.
- **Max Planck Institute**
 - Hybrid OpenStack/Kubernetes; 1.5PB storage (MinIO).
 - Used Cilium for network policies and security.
 - Federated IAM (LDAP/SAML/OAuth2).
- **Mobivia / ATU** – DevOps; 4-year engagement (rolling 3-month contracts, 16 consecutive renewals)
 - Unwound an organically grown on-premise Kubernetes setup; CDN/DNS/network SME.
 - IAM: Keycloak (OIDC) + Active Directory (LDAP/Kerberos) for Kubernetes; SPNEGO tuning on Nginx Ingress.
 - Observability: Stabilized ELK stack with retention policies; coached users; identified heavy log producers.
 - Network & Security: DNS restructuring (external records, internal/VPN zones); DDoS protection (Cloudflare + DataDome); DMZ hardening.
 - Infrastructure: Traefik Ingress Controller migration; Cloudflare CDN optimization.
- **WeShare / Volkswagen Group** – Initially brought in as a one-man-rescue-mission-team, evolved into DevOps guild coordination with C-Level; microservices on GCP/Azure.
- **SiWeGO** – Start-up CTO (Fractional, on best effort, Nov 2017 – May 2019): Low-OPEX operations; algorithmic design of graph overlaps; suppliers management.
- **HelloFresh** – SecOps (2-week emergency → multi-year engagement):
 - Stabilized SIEM solution (ELK + S3 ingestion) during emergency.
 - Library vulnerability scanning rollout; Jira integration.
 - Controlled ELK costs and sizing; hired and onboarded full FTE team.
- **SkyCharge** – Extended Debian-based ANSI C codebase (ARM/BeagleBoard cross-compilation).
- **Bella & Bona** – Pre-acquisition architecture audit for investor due diligence.

SENIOR INFRASTRUCTURE ENGINEER (APRIL 2008 – AUGUST 2018)

Multiple Companies

Berlin / Düsseldorf, Germany

FULL-TIME EMPLOYEE

- **OLX Group** – Senior Performance Engineer [Q3 2016 – Q2 2018]
 - CDN/SSL/DNS vendor selection and internal coaching across 4 locations (AR, PT, DE, IN).
 - Load & performance testing and architectural performance design review.
 - Managed **NewRelic (\$2M)**, **Akamai (\$4M)**, and **AWS (\$24M)** contracts; saved **\$300K/year** on Kubernetes monitoring.

- **Sony PlayStation (Gaikai → PlayStation Now)** – Site Reliability Engineer [Q3 2013 – Q2 2016]
 - Operated **55k hosts across 12 DCs** for global game streaming; on-call duty across the Atlantic.
 - Tool design and coding in Python to administer the infrastructure.
 - Designed NTP infrastructure for low-latency gaming; maintained Gentoo packages for KVM/Ganeti.
 - Redesigned OpenNMS fallback monitoring; built US-EU team documentation solution.
 - Hadoop subject matter expert; architected Ceph storage.
 - Load-tested NFS storage (**40 MBps/client, 46 Gbps egress/node**); flagged IRQ load-balancing need.
 - Defined a Domain-Specific Language (DSL) via the textX library for graphite-api, enabling Grafana adoption.
 - PXE-booted Tokyo and London datacenters; debugged DHCP (2 lease servers); resolved MTU issues on VPN tunnels.
- **Rocket Internet** – Sr. Software Engineer / Chief Troubleshooter [Q4 2012 – Q4 2013]
 - Tackled issues affecting production sites globally (startup/ventures incubator); round-the-clock with SE Asia / LatAm ventures.
 - Capacity testing, SQL profiling & tuning, JVM profiling & tuning, data mining, network packet debugging.
 - Developed on PHP Zend Framework 2, MySQL, MongoDB.
 - Designed and implemented Hadoop cluster for big data analytics.
 - Developed SQLAlchemy (pypi.org/project/SQLAlchemy) while studying Theoretical CS at Politecnico di Milano (2013–2014).
 - Patched major PHP-coded data structure (product categories) – adjacency tree in pure SQL with stored procedures.
 - Traced TLS negotiations (version mismatch) with Wireshark between proprietary software and F5 load balancers.
- **txtr / 3M** – Head Site Reliability, Release Management [Q3 2011 – Q3 2012]
 - Responsible for overall site reliability; metadata content ingestion (ONIX streams, AdobeDRM, Glassfish/Oracle).
 - Introduced JMX-based instrumented metrics; conducted performance tests via remote PoPs.
 - Designed and implemented a Ruby/BDD automated testing solution.
 - Java heap stack, networking, and infrastructure root cause analysis.
- **ProfitBricks / IONOS** – Senior System Administrator / Deputy Team Lead [Q2 2011]
 - Operations' Deputy Team Lead for a KVM-based cloud computing service.
 - Technologies: Nagios, Puppet, Debian LiveCD, GlusterFS, Python, Bcfg2, FAI, tftpd/bootp, Bacula.
- **Gate5 / Nokia / HERE Technologies** – Senior System Administrator [Q3 2010 – Q2 2011]
 - Operations and R&D Support for OVI Maps (maps.nokia.com).
 - Acted as DevOps: analyzed the build pipeline of all components to address inconsistencies/miscommunications.
 - Implemented continuous integration environments (Puppet, CentOS on HP Proliant servers).
 - Delivered core components of maps and device R&D for emerging markets (India/China).
 - Strategic Yahoo/OVI Maps integration; testing and capacity planning across multiple datacenters.
 - Introduced Cucumber-Nagios (repackaged Ruby stack under CentOS) for automation QA and production monitoring.
- **Vodafone Group** – QA Tester, Düsseldorf [Q1 2008 – Q2 2010] (2.5-year engagement, rolling 3-month contracts, 10 consecutive renewals)
 - Led load & performance testing activities.
 - Identified major architectural design flaws in Java Enterprise Applications.

SOLUTION ARCHITECT / SYSOPS / PROGRAMMER (1996 – APRIL 2008)

mauin.com / puotesto.it / guidoserra.it

Italy

FREELANCE/CONTRACTOR

- **Embedded Linux R&D** – Stager for Alessandro Rubini (GNUDD); R&D with Marco Cavallini (KOAN); LEAF porting to compact flash; OpenWRT.
- **Giovanni Franza / SICEF / MEng** – Assistant for ECDL IT-Administrator / CompTIA+ courses.
- **NSEC** – Enterprise security; open source pre-sales/R&D; Cisco PIX, CyberARK, Nessus, SE-Linux.
- **BPU Banca** – Financial software QA (ClearCASE, Oracle, PL/SQL).
- **H3G Italy** – Security Analyst (Active Directory, VPN concentrators, PGP/GPG, Nessus).
- **Politecnico di Milano** – Lecturer (C socket programming); iCTF World Champion 2005.
- **Open Source** – GOSa² (LDAP schemas), Seagull (SQLite), GNU/TLA (FTP auth), wicd (Debian Maintainer, ported to Python3).
- **Custom Solutions** – Pandora (LDAP/Postfix/Asterisk/DRBD), Biblioteca Sormani (full-text indexing), Tempus (SMS notifications).
- **Volunteering** – IT Manager for Ingegneria Senza Frontiere; Emergency/PeaceReporter; Linux Day 2003/2004.

Education & Certifications

Politecnico di Milano

COMPUTER AND SOFTWARE ENGINEERING (DROPOUT)

2000–2008, 2013–2014, resumed 2025

- Resumed studies in 2025; 4 exams remaining; target completion: end of summer 2026

Certifications: Red Hat Ceph Storage (CEPH125), 2016 (NYC, J.C. Lopez) | ISO 27001 / Vanta Auditor, 2025

Maritime: Marine Radio Short Range Certificate (GMDSS S.R.C.) – RYA, 2021 | World Sailing Offshore Special Regulations, 2021

Languages: Italian (Native), English (Fluent), German (Working)

Open Source: FSFE Fellow; Founder Politecnico Open *nix Labs (POuL); wicd Debian Maintainer (ported to Python3); Traefik Contributor

Interests: Offshore Sailing (Centro Velico Caprera, Les Glénans), Skiing, Cooking, Trekking, Alpine Guide (CAI Bergamo)