

Guido Maria Serra

PRINCIPAL INFRASTRUCTURE ENGINEER · GNU/LINUX & EMBEDDED SYSTEMS EXPERT

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Profile

30 years of experience in GNU/Linux, embedded systems, and large-scale infrastructure. T-shaped professional with deep verticals in **Load & Performance Testing** and **Security**, combined with broad expertise in debugging, optimization, and system hardening. Programmer and architect of resilient systems, from kernel-level embedded solutions to global-scale cloud platforms.

“In an era of endless abstraction and inflated job titles, I am an engineer of substance. I don’t just assemble ready-made pieces of digital Lego; I belong to the school of professionals who know exactly what is happening under the hood. When the infrastructure collapses, logs don’t make sense, and graphical interfaces fail, I don’t look for a temporary quick-fix. I am the one who gets into the trenches, runs a `curl`, analyzes the packets, isolates the root cause, and fixes it. I handle whatever comes my way with pragmatism, deep technical competence, and the composure of someone who built their authority in production, not on keywords.”

T-Shaped Verticals

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|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load & Performance | FinOps (\$300K/year savings at OLX), APM strategy, load testing, capacity planning, CDN/SSL/DNS vendor selection, custom tooling (TextX/Graphite, OpenNMS), vendor management (NewRelic \$2M, Akamai \$4M, AWS \$24M), stress testing (Vodafone 360, Sony 55k hosts) |
| Security | WAF/Edge (Fastly Signal Sciences), DDoS protection, ISO 27001 certification, Vanta Auditor, PKI/SSH (Sony PlayStation), IAM/SSO (Keycloak, OAuth2, SAML), SIEM (HelloFresh) |

Professional Experience

PRINCIPAL INFRASTRUCTURE & SECURITY CONSULTANT (2018 – PRESENT)

whitehat.berlin

Berlin, Germany / Predore, Italy

FRACTIONAL/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; 2 consecutive contracts over 1.5 years, re-engaged by request.
- **FinTech Stealth** – AI-assisted coding workflows (Python, TypeScript); load testing and reverse engineering.
- **Octostar** – GPU-backed Kubernetes clusters for ML training/inference; ClickHouse/MinIO data platform.
- **ClovrLabs** – Kubernetes/GitOps platform (ArgoCD, Traefik, Datadog); mentored 5-person security ops team.
- **Prima Assicurazioni** – Coached 12-engineer SRE team; blameless culture; AWS multi-region rearchitecture.
- **Max Planck Institute** – Hybrid OpenStack/Kubernetes; 1.5PB storage; federated IAM (LDAP/SAML/OAuth2).
- **Mobivia / ATU** – 4-year engagement (rolling 3-month contracts, 16 consecutive renewals)
 - Infrastructure modernization: Cloudflare/Traefik migrations, Keycloak SSO, ArgoCD GitOps.
 - Stabilized ELK setup; introduced retention policy; restructured DNS records and VPN zones.
 - Security assessment of DDoS protection and DMZ endpoints.
- **Urban Mobility Int. (WeShare/VW)** – 1-week emergency intervention → 13-month retained operational support & C-Level coordination.
- **SiWeGO** – Start-up CTO (Fractional, Nov 2017 – May 2019): Low-OPEX operations; algorithmic design of graph overlaps; suppliers management.
- **HelloFresh** – 2-week emergency handover → multi-year retained engagement:
 - Stabilized SIEM; SSO alerting; identity validation.
 - Library vulnerability scanning rollout; Jira integration; S3→ElasticSearch ingestion.
- **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
 - \$300K/year savings via FinOps; APM strategy; load testing; CDN/SSL/DNS vendor selection.
 - Vendor management: NewRelic (\$2M), Akamai (\$4M), AWS (\$24M).
 - Bare metal to cloud migration.

Multiple Companies

Berlin / Düsseldorf, Germany

FULL-TIME EMPLOYEE (CONTINUED)

- **Sony PlayStation (Gaikai → PlayStation Now)** – Site Reliability Engineer
 - Operated 55k hosts across 12 DCs; Ceph storage; PKI-based SSH; custom metrics DSL (TextX/Graphite).
 - Gentoo maintainer for Ganeti/KVM; NTP infrastructure for low-latency gaming.
 - Redesigned OpenNMS fallback monitoring; US-EU documentation for data retention.
- **Rocket Internet** – Chief Troubleshooter & Senior Data Architect
 - Hadoop/HBase clusters for analytics; ETL pipelines; SQLAlchemy (pypi.org/project/SqlAlchemy).
 - Patched major adjacency tree in pure SQL with stored procedures for catalog/category management.
 - Escalated vendor issue leading to proper recommendation service.
- **txtr (3M)** – Backend QA Manager: End-to-end product reliability for B2B eBook platform; automated testing.
- **IONOS (ex ProfitBricks)** – Senior System Engineer: Cloud infrastructure; Deputy Team Leader.
- **Nokia Maps (Gate5 → HERE)** – Senior System Engineer: Yahoo and OVI.com integration; testing and capacity planning.
- **Vodafone Group** – 2.5-year engagement (rolling 3-month contracts, 10 consecutive renewals)
 - QA Architect: Internal QA toolkit for stress-testing Vodafone 360 backend (REST APIs).
 - GSM dongle aggregator with Nagios for multi-country SIM testing.

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

mauin.com / puotesto.it / guidoserra.it

Italy

FREELANCE/CONTRACTOR

- **Giovanni Franza / SICEF / MGEng** – Assistant for ECDL IT-Administrator / CompTIA+ courses; LEAF porting to compact flash.
- **Alessandro Rubini / GNUDD** – Stager for embedded Linux R&D.
- **Marco Cavallini / KOAN** – Embedded Linux R&D.
- **NSEC** – Enterprise security; open source pre-sales, R&D.
- **H3G Italy** – Security Analyst: system hardening, Cisco PIX, CyberARK, Nessus.
- **BPU Banca** – Bodyrental (Accenture/Euris): financial software QA; ClearCASE, Oracle, PL/SQL.
- **Politecnico di Milano** – Lecturer: C socket programming. **ICTF World Champion (2005)**.
- **Volunteering** – Emergency/PeaceReporter (IT); Ingegneria Senza Frontiere (IT Manager).
- **Open Source** – GOSa², GNU Arch, wicd, wfm.sourceforge.net; Biblioteca Sormani; Pandora; VoIP PBX.

Core Technical Domains

Programming	C, Python, Bash, Go, TypeScript, PHP, SQL (stored procedures), sed/awk
Distributed Systems	Large-scale Linux, Ceph, fleet management, 55k-host platforms
Cloud & Platform	AWS, GCP, Kubernetes, Terraform, GitOps, Helm, Docker
Embedded & Low-Level	Embedded Linux, LEAF, iptables, kernel patches, ARM/MIPS
Security	PKI/SSH, IAM/SSO, ISO 27001, WAF, SIEM
AI/ML Infrastructure	GPU Kubernetes, data pipelines, local/cloud portability
Observability	Prometheus, Grafana, ELK, OpenTelemetry, SLO/SLI

Education & Additional

Politecnico di Milano

B.ENG. COMPUTER SCIENCE (FINAL YEAR)

2000–2008 (Resumed 2025)

Red Hat Ceph Storage (CEPH125), 2016; ISO 27001 / Vanta Auditor, 2025

TRAINING

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

Open Source: FSFE Fellow; Co-founder Politecnico Open *nix Labs (POuL); wicd Debian Maintainer

Interests: Offshore Sailing, Skiing, Trekking, Alpine Guide (CAI Bergamo)