



Massimiliano Fantuzzi

33 years old, single, B Permit
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Linux & Network Engineer Oracle/Postgres/MySQL DBA

12 years in telecom, hosting & ISP business

LANGUAGES: ITALIAN (MT) - ENGLISH (C1) - FRENCH (C1)

LINUX -> Installation, tuning and maintenance of operating system, kernel modules. Debug, monitoring, tuning. Operation and maintenance of systems Debian 3-8 Red Hat 4-7 CentOS 5-7 Ubuntu 7-16 Fedora 15-21, little AIX & HP-UX Virtualization with KVM, Xen, OpenStack, VMWare, Vagrant/VBOX/chroot... Data Operations. Expert in ACPI-EFI-PXE and clocking issues
NETWORKING -> IP networks, TCP, streaming protocols, QUIC, radio modulation schemes, image/sound/data transmission, tunnels, generation & analysis of signaling in different high-delay (satellite) or as low-latency environments
PROGRAMMING -> Scripting, automation, provisioning, dev/ops, programming with C, Perl, Java, developed crawlers, loggers
SECURITY -> Expert of DNS-over-HTTP, maintenance of LDAP/Radius/Kerberos, storage pools GFS, XFS, NFS, ZFS
DATABASE -> Installation, migration, operation, tuning on PostgreSQL, Oracle and MySQL, replication, services, restore RMAN
Daily use of: APT/YUM, Idconfig, Apache, NGINX, HAProxy, Docker, sysctl, strace, gdb, make, git,, ip route, tc, ldd, lsof, dig/kdig

CERTIFICATIONS & ACHIEVEMENTS

2018 IETF / ICANN / Google Hackathon: DNSProxy, invited as early implementor of DNS-over-HTTP draft/standards
2015-2018 Radio Operator License: HB3 / HB9 for HF VHF UHF coverage with radio apparatus. #sch2 Hackathon
2011-2018 DNS caching software in C/PHP for DNS-over-HTTPS freedom <https://github.com/fantuz/DNSProxy>
2013-2015 Thales Avionics installation training, Cisco CCNA/ICND training, Openstack training and practical usage
2010-2013 OCA, Oracle Certified Administrator, OCP, Oracle Certified Professional. Linux Certification (LPI = RHCE)
since 2008 Teaching Linux courses. Learning C. Attended VMWare virtualization, Cisco CCNA/ICND, SQL Tuning trainings

PROFESSIONAL EXPERIENCES

[Jul 2016 – Jul 2017] **Devops Linux, Network Administrator - INFOMANIAK NETWORK SA, Switzerland [Hosting, web services]**
3000+ Debian nodes, 100 network equipment, 1 million mail accounts, 25'mln mails per day, 100'000 websites, 500'000 domains

- ✓ Expert on Elasticsearch, Kibana, Logstash, Filebeat, data transformation/integration (30+TB)
- ✓ Phishing, virus, scam analysis, pattern detection. On-call duty, 3 datacentres (emergency troubleshooting/debug)
- ✓ devops, docker, Git/SVN, Puppet, Nagios/Zabbix, HAProxy/Apache, MySQL, REDIS/MongoDB/RabbitMQ
- ✓ **Optimizing websites and suggesting best-practices (HTML/CSS/PHP) for HTTP, PageSpeed, HTTP2, HSTS, SPDY**
- ✓ Tuning on MySQL clients, ~1500 machines rolled-out via Puppet. Docker containers, high-availability
- ✓ Live GeolP, network big-data analysis, iptables u32, traffic capture, debug, DDoS mitigation, post-mortem report

[June 2016 – July 2016] **IT architect (temp mission) - POLUSTECH AG, Switzerland [TLC telco / government]**

Architecture of Debian & CentOS for the 3G/4G backhaul legal-interception networks in Zug (teaming with vendor Aricent).

- ✓ Setup Cisco ASA, VPN schema, IPSEC backhaul tunnel with Albanian MVNO. 3/4G apparatus, rack setup,
- ✓ Creation of replicated/failover for SGSN and GGSN using virtualization KVM. (GSM, ISUP, IKE, different traces)

[Apr 2016 – May 2016] **Linux & Network Administrator (consulting) - SOPHIA GENETICS SA, Switzerland [DNA sequencing]**

Supporting business users, bioinformaticians, IT department and some datacenter hardware operations (SuperMicro)

- ✓ docker, Swarm, containerization of services. Migration of common Web Apps (Jira, Confluence, TRAC)
- ✓ Cisco ASA, routing decisions, QoS, VPN. Setup 300+TB in XFS/NFS4 and ZFS backup. Perf tuning on XEN/KVM.
- ✓ Optimizations/integrations to GPO in order to smoothly join Linux hosts into Active Directory domain (samba)

[Sep 2014 – July 2015] **Linux & Network Engineer - CERN, Switzerland/France [Physics]**

Maintain a computing cluster of 200 nodes plus Network & Storage architecture. TSM, git/Puppet, Nagios/Cacti, Openstack/KVM

- ✓ Responsible for Operations of Fedora/CentOS/Ubuntu servers, the 50+ private users, L3 support to data-taking teams.
- ✓ Data migration operations. Dealing with Intensive I/Os = network analysis needed !
- ✓ Health monitoring via Nagios/Zabbix/Cacti. Expert on CASTOR tape archive. POC Intel Xeon PHI high capacity TPU
- ✓ **Architecture of RAID/10 (1+0) for 8GB/sec data taking, multipath 10/40Gbit, LAG (link aggregation), IPMI, PXE, DHCP**

[April 2013 – Jan 2015] **Senior Oracle Administrator, NOC Operations - ONAIR, Switzerland [TLC satellite telco & avionics]**

3rd level Linux/network support for Engineering & Testing teams, **on-call duties...** Network analyst on SGSN traces, TCP/IP, Kernel

- ✓ **Tuning for global Red Hat "Airbus GSM platforms" for an extraordinary quality on Inmarsat's satellite link.**
- ✓ 3 seconds shortening on TCP establish, benefit for 100 million connections per day! Excellent feedback for my focus on CX

- ✓ Create a visualization tool “delays of different satellite regions” from Inmarsat session-data, Honeywell SATCOM.
- ✓ Created web tools to measure timing and gather user metadata improving service, outlining trends, discovering behaviors
- ✓ Architecture of PostgreSQL and Oracle into HA clusters. Perl, GIS geo-spatial, PLSQL/PGSQL. Data + platform migrations.
- ✓ Crawler for meteorological information (through Meteo France aviation forecast) based on CURL and PDF

[Oct 2012 – April 2013] **DBA for DWH, Linux Consultant - SKY TV + Vodafone + Telecom Italia, Italy** [*TLC telco business*]

DWH RAC/Streams/DataGuard/RMAN, Database Migration ~100TB, RHEL, IBM AIX. Excellent feedback received.

- ✓ Creation and testing of migration procedures, replayed blindly by Telecom Italia on many other clusters (SNODO)
- ✓ Solved an important bug on SKY-Go mobile television application affecting MacOS systems (SKY)
- ✓ Participate in setting-up 4G LTE test facility in Vodafone (Bisceglie, Milano, Italy). Fabric storage bay: HP9500

[Aug 2012 – Nov 2012] **Linux Administrator for ENI IT Operations Group - ENI, Italy** [*Oil & Gas*]

Datacenter operations for VMWare Virtualization VSphere, Oracle 10-11 (SCAN, CRS, RMAN), Red Hat 6-7, Apache, BEA Weblogic

- ✓ Analysis of intra/extranet traffic, ensure business-continuity, partition systems based on frequency of access, hot/cold
- ✓ Define on-call intervention procedures for Databases, Webservers and Red Hat Linux. Tuning SQL queries

[Aug 2011 – Aug 2012] **Technician & Quality Analyst - Teradata, Czech Republic** [*IT consultancy*]

Defined migration strategies, evaluating the impact on operations/business users. Code reviews, tuning SQL/procedure.

- ✓ Optimized procedures, translated code from Oracle to Teradata, define specs for calculations, rates and processes
- ✓ Contact with business users, teaching about “tables not-well normalized, bad indexing, DataBase theory implementation”

[Dec 2009 – July 2011] **Oracle DBA - IBM, Czech Republic** [*world's historically biggest IT company*]

Carrefour France, China and Africa Operations, on-call team-leader, 10'000 servers, including frontends, clients and core systems.

- ✓ Service continuity of database operations on Oracle 10-11. Linux/Unix/Windows. Automation, programming, scheduling
- ✓ IBM stack (Domino, AIX, TSM, DB2, LPAR) with open-source and Oracle mix (DRDB, GFS, ACFS2, MySQL)

[Sep 2007 – Dec 2009] **Oracle DBA & Linux Administrator – Telecom Italia, Italy** [*largest landline & mobile telco*]

Application Operations department for Law Enforcement Agency. Sensible data handling (call data record, IP, URL), opensource products as PostgreSQL, MySQL, SQLite and Oracle. VMWare, RHEL 4/5, HP-UX, Ubuntu, Oracle 9-10, BEA Weblogic, Apache

- ✓ Responsible for tools evolution. High level of precision and efficiency. Acquired interest and skill on SQL and pivoting.
- ✓ Geo-localization of INMARSAT BGAN users, quality monitoring. Defining Kernel specs when needed (high throughputs)
- ✓ Maintained the real-time monitoring on system parameters, status of health and loading streams, alerts and op KPI
- ✓ **Analysis/tracking of behavioral patterns** in criminal action **through Apache, IIS, NGINX logs.**

[Sep 2006 – Sep 2007] **Linux Migration Specialist, Network Administrator, Windows 1st/2nd level support, Italy**

- ✓ **HERA** [*Gas & Utilities*] : Migrated ~500 hosts, saving on licensing costs imposed by Microsoft clients and servers !
- ✓ **Lamborghini** [*Luxury goods*] : Offered extended support to all company users, receiving very positive feedback

CORE SKILLS / SOFT SKILLS

- Troubleshooting network issues, monitoring, debug software, network analysis, highFQ/realtime data taking & acquisition
- Expert on Virtualization (Kernel, scheduler, bottlenecks). Guru for “CPU clock timing issues” and performance sampling/analysis
- DBA specialized on data migration. SQL tuning, reverse engineer, PGSQL and PLSQL dev, reporting, data mining, audit, plotting
- Analysis of logs, IP traffic data, web/NETFLOW/TCP, DNS messaging, RF spectrum, DWH/ETL data, testing pipelines
- Passionate, motivated at problem, incident & change management. Led projects as Engineer, Architect, PM or team-leader

EDUCATION

2005-2018: Docs for **Linux and Networks courses**, how-to, LUG, CERN conferences, Hackathons in Geneva & London (IETF)
 1999-2006: Scientific Lycee: Math, Chemistry, Physics, Literature (EN, FR). University of Law in Bologna, not completed

HOBBIES

Member of HB9G Radio Club Genève. Owning Swiss Federal License for Radio Operator: HB3YOE 2015 & HB9GUS 2018.
 Bricolage on Arduino, Sensors. Apart circuits and microcontrollers, I enjoy sports and open-air activities, especially sailing ☺
 Volunteer for the *Couse de l'Escalade* since 3 years. Joined volunteer firefighters team in Bellevue. Hackathon in CUI Batelle