



Calogero Lo Leggio

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PROFESSIONAL SKILLS

Professional skills

Since 2000, my interest is focused on **System Administration** (GNU/Linux and *BSD), **System Engineering**, **DevOps integration**, **Cloud Computing**, **Virtualization**, **IT security**, **Clustering** and **High Availability services**.

- **OS:**
 - GNU/**Linux** [level: advanced] (from 1999)
 - **Open/FreeBSD** [level: good] (from 2004, noncontinuous)
 - Microsoft Windows Server [level: medium] (from 2002, noncontinuous)
- **Virtualization and Container:**
 - **KVM**, qemu, libvirt [advanced]
 - **Docker**, **LXC/LXD** [advanced]
 - **VMware ESXi**, **vSphere** [medium]
 - Xen [base]
- **Container/Cloud/VPS manager and Orchestrator:**
 - **Kubernetes** [advanced]
 - **OpenNebula** [advanced]
 - **Proxmox** [advanced]
 - Nomad [medium]
 - Ganeti [medium]
 - OpenStack [base]
- **Configuration management and DevOps tools:**
 - **Ansible** [advanced]
 - **Terraform** [medium]
 - Vault [medium]
 - Saltstack [medium]
 - Puppet [base]
 - Chef [base]
- **IT Services:**
 - Web: **apache**, **nginx**, **ha-proxy**, envoy
 - Mail: **postfix**, **dovecot**, amavis-new, **mailscanner**, **spamassassin**, ClamAV, antispam (greylist, SPF, DKIM)
 - Database: **MySQL** [advanced], **PostgreSQL** [base]
- **Version Control System:** **git**, subversion, **mercurial**, CVS
- **Security and Monitoring:**
 - Firewall: **netfilter** (iptables/nftables), **pf**, ipfw
 - VPN: **OpenVPN**, **IPSec**, **Wireguard**
 - IDS: **suricata**, **wazuh**, **ossec**, **aide**
 - Vulnerability scanner: **OpenVAS**, **Nessus**
 - Monitoraggio: **zabbix**, checkmk, **prometheus+grafana**, icinga/nagios
- **Programming and scripting languages:**
 - advanced: **Shell script** (bourne shell, c-like shell)
 - medium: **Ruby**, PHP, Javascript
 - base: **C**, **Python**, Go, Lisp/Elisp, Lua

● CERTIFICAZIONI

Certifications

- Linux Foundation / Cloud Native Computing Foundation
- **CKA** (Certified Kubernetes Administrator) 12/03/2019 (ID: CKA-1900-001625-0100)
- **LFCE** (Certified Engineer) 25/11/2015 (ID: LFCE-1500-0150-0200)
- Linux Professional Institute (LPI ID: LPI000208288):
- **LPIC-1** 16/06/2010
- **LPIC-2** 29/09/2010
- **LPIC-304 (Virtualization & HA)** 23/06/2015
- **LPIC-303 (Enterprise Security)** 03/08/2020 (Verification Code: p9rlbtf58d)
- Rancher Labs: **Certified Rancher Operator: Level One** 03/01/2021

● WORK EXPERIENCE

10/2010 – CURRENT – Perugia, Italy

FOUNDER, SENIOR SYSTEM ENGINEER/SYSTEM ADMINISTRATOR – LIBREIT

Some of the most interesting projects I've done:

- Setup and maintenance of several **Kubernetes** distributions (vanilla, **Rancher**, **GKE**).
- Implementation of **hyperconverged virtualization** systems (**OpenNebula**+Ceph/**Lizardfs**, **Proxmox**+Ceph).
- Deployment of **distributed** and **redundant storage** systems (**Ceph**, **Lizardfs** e **Glusterfs**).
- NAS management: **multi-site replication** via snapshots (**btrfs/ZFS**), **dropbox-like** system (Synology Drive ShareSync).
- Centralized authentication (**FreeIPA**) with OTP (**2FA**) and **ssh key management**.
- Deployment a **Security Operation Center** (IDS: **Ossec**: - Log analysis: **Elastic Stack**)
- **Centralized** and **replicated backup** systems. Drafting of an IT infrastructure **recovery plan** in case of emergency (**Disaster Recovery**).
- Advanced **firewall** management (**opnsense**): multi-WAN connectivity in HA, traffic shaping, VPN.

LibreIT infrastructure:

Implementation of a scalable and highly reliable infrastructure that allows the distribution of IT services (vps, containers, web services, mail, etc.) in different datacenters/Cloud providers (OVH, GCP, Hetzner, etc.).

This infrastructure is built using the following components:

- Configuration management and orchestration: **Ansible**.
- Infrastructure management (Infrastructure as Code, IaC): **Terraform**
- Virtualization and container **KVM** as hypervisor, **OpenNebula** as Cloud manager and **Kubernetes (Rancher)** as container orchestrator.
- Cloud Hosting:
- Web: load balancer (**haproxy**) + **CDN/WAF** (Cloudflare) + http reverse proxy (**varnish**) + webserver **nginx**.
- Email: SMTP (**postfix**) + IMAP/POP3 (**dovecot** con dsync replicator) + gateway antispan (**LibraESVA**/Proxmox Mail Gateway).
- Databases: **MariaDB/MySQL** Cluster using **Percona XtraDB cluster** or **Signal 18 Replication Manager**.
- Backup: **Bareos/bacula**, **borg**, **burp** and custom scripts using **restic**.
- Monitoring and logging: **Zabbix** + **Elastic Stack** (Prometheus in testing).

<http://libreit.org> | Perugia, Italy

08/2015 – CURRENT – Perugia, Italy

IT MANAGER - SENIOR SYSTEM ENGINEER/SYSTEM ADMINISTRATOR – DESEGNO S.R.L.

- Deployment of a redundant virtualization system (failover) based on **Proxmox/KVM** and **ZFS** (storage replication).
- Installation and configuration of a container (**Docker**) orchestrator (**Rancher/Kubernetes**) for a fast and modern (**CI**, via **Gitlab**) web applications development.
- Administration of **~40 workstations** (MacOS and Windows):
- Centralized authentication (**Samba**).
- Automated management of system updates.
- Policy Management for advanced configurations of the OS and applications.
- Networking:

- Firewall **OPNsense** in **HA** with **Multi-WAN** (load-balancing and failover).
- **VPN** site-to-site and road-warrior via **Wireguard** and **Openvpn**.
- **Routing VLAN** (fiber optic).
- Management of a **Synology** NAS (btrfs + SHR) with backup replicated to other 2 NAS, 1 of which is used for **offsite Disaster Recovery**.
- **3cx** switchboard management.

<http://www.terbgroup.it> | Perugia, Italy

03/2015 – 05/2016

IT MANAGER - SENIOR SYSTEM ENGINEER/SYSTEM ADMINISTRATOR – POLO D'INNOVAZIONE DI GENOMICA, GENETICA E BIOLOGIA (POLO GGB)

- Deployment of a **Private Cloud** for **HPC** (High Performance Computing) using **OpenNebula** to obtain the following features:
- **auto-scaling**: automatic creation/removal of the cluster nodes (vm). Integration with the OpenNebula resource distribution system that assign RAM, CPU, GPU and storage to the node, based on the type of calculation.
- **cloud bursting**: creation of new resources in AWS Cloud Provider to increase cluster nodes.
- Deployment and management of a **distributed storage** system (**Ceph**), containing millions of files for genomic analysis.
- Configuration of a resource management and distribution system (**Torque**) to perform large calculations on a cluster.
- Monitoring (**zabbix** + scripts) temperature of different cold rooms (aggregated data from multiple sensors per cell).

<https://www.pologgb.com> | Perugia, Italy

02/2011 – 04/2013

SYSTEM ADMINISTRATOR – OKCOM S.P.A.

- Studying and testing of Cloud/VPS manager and orchestrator: **OpenNebula** e **OpenStack**.
- Tuning of distributed storage solutions: **DRBD** and **GlusterFS**, integrated with the **corosync/pacemaker HA framework**.
- Advanced monitoring of virtualization systems, networking, web services, email, db, etc, via **zabbix** and **icinga**.
- Implementation of a highly reliable web infrastructure, with **haproxy**, **Apache2/nginx**, **php-fpm**, **memcached** and **ISPConfig3**.

<http://www.okcom.it> | Perugia, Italy

08/2007 – 01/2011

SYSTEM ADMINISTRATOR – TELEUNIT S.P.A.

Some of the most interesting projects I've done:

- Deployment, configuration and orchestration (**Chef**), of more than **50 GNU/Linux** servers (vm and physical).
- HA virtualization infrastructure using **KVM**, **VMWare ESX** and **OpenVZ**.
- Implementation of HA and **hardened web infrastructure** with HAproxy, ISPConfig3, Apache2/nginx, mod_php/php-fpm, memcached and MySQL replicated with Percona XtraDB Cluster.
- Security: *IDS (**prelude**, **ossec**), Monitoring (**zabbix**, **collectd**), Logging (**rsyslog** on db storage)
- Advanced backup system with **bacula**, using **SAN** and **magnetic tapes** as storage.
- **Cluster MySQL** in HA.
- Implementation of a mail hosting services with Antispam Mail Gateway with an advanced configuration of a lot of different antispam and antivirus techniques (greylist, SPF, DKIM); **mailscanner** and **Spamassassin** (razor, dcc, rbl), **ClamAV**(antivirus). Using **Postfix** as a MTA, and **Dovecot** as MDA.
- Development of various shell scripts (backups, conversions of telephone exchange tags, etc.) in ruby and php.
- Creation of an **introductory GNU/Linux course**.

<http://www.teleunit.it> | Via Monteneri, snc, 06129, Perugia, Italy

05/2005 – 07/2005

SYSTEM ADMINISTRATOR – COOPERATIVA SOCIALE AIDAS

Setup of a Virtual Private Network (**OpenVPN**) and a authentication domain (**Samba**), using **Debian GNU/Linux**.
Terni, Italy

● PRESENTAZIONI

Presentations

I have been a computer enthusiast since my father bought an Amiga 1200.

I am good at my job, because I love what I do! :-)

Particularly interested in **Free Software**.

● EDUCATION AND TRAINING

1999 – Via Pievaiola, 140, Perugia, Italy

DIPLOMA DI STATO DI TECNICO DELLA GESTIONE AZIENDALE – Istituto professionale Blaise Pascal

Informatica (basi di programmazione e di networking)

Economia Aziendale

Lingue straniere (inglese, francese)

ISCED 4 (84/100)

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	C1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● ORGANISATIONAL SKILLS

Organisational skills

I was vice president of "entropica" (<http://entropica.info>) a cultural association that aimed to spread the use of free technologies.

● COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

Excellent ability to work in groups.

I've co-founded the Perugia hacklab, a place where a group of IT enthusiasts experimented and shared their IT ideas.

● **CORSI**

Courses

Courses as a teacher:

- Docker corso pratico - FidoCommercialista (SIPI S.r.l.), TourTools S.r.l. e T&RB Group S.r.l.
- Fondamenti di GNU/Linux - Teleunit S.p.A.
- Panoramica sul software libero - Perugia hacklab

● **PUBLICATIONS**

Publications

IT Newspaper articles:

- HTML.it (Importante risorsa italiana per Web developer)
- Deployment e Ruby on Rails
- Capistrano: il deployment Rails diventa facile

<http://www.html.it/author/cloleggio/>

Translations:

- Debian - Handbook (<http://debian-handbook.info>)
- Debian - Guida per il nuovo Maintainer (<http://bit.ly/kalos-deb-maintainer>)
- KDE - Varie traduzioni