**Experienced IT Professional in Linux and OpenSource Development,
Administration, Industrialization, Monitoring.
Data Science, Big Data, and Machine Learning passionate.**

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*Starting with degrees in Applied Mathematics and a Bachelor in Music Performance and
Composition and then moving on into Cisco WAN Networking and Network Security, Linux
System Development and Administration, Nagios/Centreon Monitoring and Linux Embedded
System Development, I have a wealth of background knowledge, maturity, and ability to learn
to bring to any new challenge or opportunity.*

Areas of Interest

- GNU/Linux and Open source Technologies;
- Machine Learning, Neural Networks, Genetic Algorithms;
- (Big) Data Analysis and Technologies;
- GPGPU Programming (CUDA and OpenCL).

◼ EXPERIENCES

July 2014 – current   **Senior DevOps and Linux Engineer at Sopra Steria**

I joined Sopra-Steria group as a L3 consulting Linux administrator and DevOps on several
Red Hat based new projects.

Summary of my tasks

- Validate, improve and build High Availability solutions, for hosting web applications and
  Oracle databases, by using the RedHat clustering technologies;
- Develop a framework for ensuring the quality of the build process and report a list of
  deviations from the company policies and the customer requests;
- Improve the Xymon monitoring;
- Configure network services (Postfix, BIND Caching DNS, Squid);
- Integrate the customer's software applications on their production systems.

Technologies

- Linux RHEL/CentOS and RedHat Cluster Suite;
- Postfix mail server, BIND DNS server, Proxy Squid, NFS, SAN, awstats.

Certifications

The Johns Hopkins University – Coursera
 Data Science Specialization

- The Data Scientists Toolbox;

- R Programming;

- Getting and Cleaning Data;

- Exploratory Data Analysis;

- Reproducible Research.

Berkeley University & Databricks – edX
 Big Data XSeries

- Introduction to Big Data with Apache Spark;

- Scalable Machine Learning.

Université de Strasbourg – FUN
 Stochastic Evolutionary Optimisation.

Stanford University – Coursera
 Machine Learning.

W3C – edX
 Learn HTML5 from W3C.

Universidad Carlos III de Madrid – edX
 Introduction to Programming with Java.

The Hong Kong University of Science and Technology – edX
 Introduction to Java Programming.

École Polytechnique Fédérale de Lausanne – Coursera
 Introduction à la programmation orientée objet (en C++).

University of Illinois at Urbana-Champaign – Coursera
 Heterogeneous Parallel Programming.

University of California, san Diego – Coursera
 How to Learn: powerful mental tools to help you master tough subjects.

Ludwig-Maximilians Universität München – Coursera
 Competitive Strategy.

December 2014 – January 2015 **Networking Architect**

Design and setup of a secure local network for a new advertising agency in Nice.

Technologies

- Cisco Adaptive Security Appliance (ASA) Firewall;

- DELL LAN Switches

- Synology NAS

- Ethernet, Wi-Fi, VLANs, VoIP, VPN

October 2011 – June 2014 – Monitoring Architect and Team Leader at IBM   L

3 Nagios and Centreon administrator and developer. Technical Leader of the Nagios monitoring team (France and Poland). Focal point of the monitoring technologies based on open source solutions and software.

This work at IBM France has given me the opportunity to setup new solutions for monitoring operating systems, databases, applications, and network appliances by using a wide range of opensource technologies.

Summary of my tasks as a L3 Nagios and Centreon team leader

- New project management (architecture, transition, planning, realization, and support);
- Design, implement, validate, and document new monitoring solutions, by cooperating with architects, managers, system, database, and application administrators;
- Develop shell scripts and C programs (mainly Linux system level programs);
- Create rpm packages and administer the yum repositories containing the monitoring and system software (250+ source rpm packages and 2000 packages created from scratch);
- Improve the security of the core and Nagios servers, apache services and applications;
- Administer/update the existing monitoring configuration (5000+ hosts; 60000+ monitored services).

Technologies

- Operating Systems: AIX, HP-UX, Linux, Solaris, VMware ESX/ESXi, Windows;
- Databases: DB2, MySQL, MS SQL, Oracle, PostgreSQL;
- Network and IT security appliances: Linux, Cisco, BalaBit Log Management, QRadar;
- Development languages: bash, C, Perl, Python, and PHP.

Open Source development

Open source extensions to the Nagios Plugins official software for monitoring Linux servers and has ported some of these plugins to other Unixes (AIX, FreeBSD, OpenBSD, Solaris, SunOS openindiana). Source code available at: `https://github.com/madrisan`

April 2013 – September 2013   System and multimedia development on the RPi

Porting of the Linux distribution openmamba (http://www.openmamba.org) to the Raspberry Pi. Integration of the last versions of the opensource projects XBMC (opensource Media Center software) and liquidsoap (a swiss-army knife for multimedia streaming).

Development of a multimedia software in Python (by using the XBMC Python API) for extending the XBMC functionalities and playing remote video files based on a remotely configurable playlist with optional timing commands.

Creation of a web interface (fork of Raspcontrol), for checking the RPi status and configuring the WiFi interface, running on top of the lighttpd web server.

Technologies

- Raspberry Pi hardware (model B);
- XBMC 12.3 "*Frodo*";
- The OCaml compiler and programming environment;
- liquidsoap 1.1.1 and extensions (ocaml-voaacenc, ocaml-shine above all);
- The lighttpd web server;
- Development languages: Bash, Python, HTML, PHP, javascript.

November 2008 – September 2011   Linux System Administrator at IBM

Senior Linux system adminitrator and Nagios/Centreon Monitoring expert.

During my work at IBM SSO in France, I was assigned on multiple client Linux support. My experiences at IBM helped me to add management, compliance and process skills to my profile.

Summary of my tasks as a L3 Linux System Administrator

- Changes and incidents management using ITIL tools and methods;
- Linux level 3 support to client and internal teams;
- ITIL and GDF environment;
- On-call duty (nights and weekends);
- Development of yum repositories containing all the sofware written by the team and myself.

Volunteer member of the IBM Center of Excellence Linux, working on solutions of standardization and validation of new technologies for Linux inside IBM France and for improving the quality of the delivery.

Technologies

- RHEL (RedHat Linux Enterprise) 2–6 – physical and virtual servers (VMWare, HyperV);
- RedHat and Linux HA (heartbeat and DRBD) clusters;
- SLES (SuSE Enterprise Linux) 10 and 11;
- IBM servers and IBM blades; Boot On San;
- VMware ESX management;
- Yum and RPM packaging;
- Bash, Python, PHP, and C development languages.

July 2008 – Octobre 2008   C/C++ development on Linux mobile at OpenPlug

Porting of several MSDN library functions and win32 code, libraries and tools developed under Microsoft Visual C/C++, to the Moblin environment, an open source Linux-based operating system and application stack for Mobile Internet Devices, netbooks, nettops and embedded devices.

Technologies

- Ubuntu Linux;
- GNU gcc compiler, linker, and GNU autotools; SVN repositories;
- Development languages: Shell scripting, C and C++.

January 2007 – May 2008 Linux and VMware Certified Engineer at IBM Turin

Senior Linux system adminitrator and VMware certified engineer.

Summary of my tasks

- Definition of a procedure for the disaster recovery (rebuild of remote servers from scratch, by using a Tivoli backup and a clonezilla iso image booted via an RSA interface);
- Move hundreds of of physical servers and virtualized server images from the Turin datacenter to IBM Milan ones;

- Install, configure and manage a hundred production servers;

- Install vendor patches and implement the IBM security policies;

- Fix the problems of "local triangulation" between frontend and backend servers when using a Radware's load balancing solution;

- Install, configure, and manage several VMware ESX servers (version 3.0.x);

- Development of some shell scripts for creating the servers utilization reports (application log analysis).

Technologies

- RHEL (RedHat Enterprise Linux) AS/ES 3/4, SuSE SLES 10; Clonezilla;

- IBM TSM;

- VMware Environment.

September 2003 – December 2005   Linux System Development at QiNet S.r.l.

Developer of the '*QiLinux*' GNU/Linux distribution for *i586* and *ppc* architectures, the first Italian distribution *created from scratch*.

April 2006 – December 2006 (9 months). Leader of the team that has developed QiLinux 2.0, the derived commercial products '*Tuga Desktop*', and the educational live CD '*QiLinux Docet*' and '*Qiko Junior*'.

Between 2003 and 2006 I had an experience as a Linux distribution developer which involved me into many different activities ranging from the conception and creation from sources of all the pieces and technologies of a modern Linux distribution to the development and debugging in the Linux environment and the compliance with the available standards.

Summary of my tasks

- Creation and updating of all the specfiles shipped by the QiLinux project;

- Build of the software for all the supported architectures;

- Integration in QiLinux of all the available Linux desktop and server technologies;

- Products quality and usabiity analysis, testing and bug fixing;

- Make the distribution conform to the FHS 2.3 and LSB 3.0 Linux standards;

- Patching of the security issues and public release of the '*QiLinux Security Advisories*';

- Development of the autospec and libspec softwares for speed up the packages updates;

- Development of the C software what was responsible for the creation of the packages dependency chart and the PHP pages in the QiLinux web portal;

- Creation of the final ISO images of the opensource and commercial products;

- Installation and support of QiLinux boxes.

Technologies

All the Linux technologies ranging from the Linux kernel plus user-space related softwares (devfs, udev, hal, . . .) to the system tools, the local, printing, and network services up to the development (autotools, GNU/gcc suite, LLVM, mono, OpenJDK, . . .) and desktop environments (KDE, Gnome, LXDE).

For more details,
`https://sites.google.com/site/davidemadrisan/linux`

March 2003 – August 2003   Cisco Network Specialist at Intesa Sanpaolo

Cisco LAN/WAN network administrator expert in one of the most important banks of Italy.

Summary of my tasks

- Managing the local and WAN network infrastructure of the customer;
- Proactively provide solutions to field resources to resolve the customer's problem;
- Install, configure, and managing an HP OpenView monitoring station;
- Development of some scripts in the Windows environment for processing alerts and sending emails.

Technologies

- Cisco routers and switches;
- HP OpenView monitoring.

Cisco Engineer at Atlanet (FIAT's TLC venture now part of the BT Telecom group), working in a highly business and production critical environment.

Development of a fully featured software for generating Cisco router configurations from a minimal set of specifications given by a network architect.

Summary of my tasks

- Implement, troubleshoot, validate very large migration projects to the MPLS technology;
- Configure and install Cisco routers on-site and troubleshoot the connectivity issues;
- Provide solutions to customer's network problems by using the Cisco technologies;

Technologies

- Cisco routers with ADSL, ISDN, serial and Ethernet interfaces;
- LAN protocols: DECnet, Ethernet, IBM SNA, TCP, Token Ring, UDP;
- Routing protocols: EIGRP, OSPF, BGP;
- Other network protocols/technologies: DLSw, ICMP, IP, L2TP, MPLS, NAT, SNMP.

October 1999 – September 2001   Cisco Network Engineer at Fiat GlobalValue

Working either on-site or remotely for different Italian customers (Fiat ITS and GlobalValue, Sanpaolo, Miroglio Tessile) to develop, troubleshoot and manage their Cisco WAN networks.

Develop small network related scripts for calculating IP parameters and doing SNMP queries on routers not accessible by our team.

Technologies

- Cisco routers and Cisco IOS;
- Routing (EIGRP, OSPF, BGP) and network (telnet, ICMP, SNMP) protocols.

Development of a collection of TeX macros and document styles written in pure plainTeX for the Royal cademy of Sciences of Turin.

The aim of this project was to develop a document style, using the plainTeX language, to easily write Mathematics and Physics papers by emulating the Microsoft Word Look&Feel.

The most difficult part was implementing a complete support for the TrueType fonts, ot natively available under plainTEX.

See the result at:
https://github.com/madrisan/TeX-macros/tree/master/astmacro

■ LANGUAGES

- *Italian*: Native language
- *French*: Bilingual proficiency
- *English*: Professional working proficiency

■ EDUCATION

2014 − 2015   **Coursera, edX and FUN MOOCs**

Lots of MOOCs on Data Science, parallel/WEB/generic programming and other domains.

October 1994 − July 1999   **Università degli Studi di Torino**

Bachelor of Applied Science, Mathematics and Computer Science.

September 1982 − June 1999   **Conservatorio di Musica G. Verdi, Torino**

Bachelor's degree, Music Performance, Piano, Composition.

■ CERTIFICATIONS

2007 – VMware Certified Professional on VI3 (VCP310).

2003 – VPN-1/Firewall-1 Management II NG.

2003 – ZyXEL Certified Network Engineer.

2002 – CSPFA - Cisco Secure PIX Firewall Advanced.

2001 – BSCN - Building Scalable Cisco Networks.

2000 – 2001 – CLSC Certified - Cisco LAN Switch Configuration.