

**Experienced Linux and OpenSource Technologist  
(DevOps, Cloud Computing, Development, 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 think 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 DevOps Technologies;
- Cloud Computing Technologies, Software Defined Networking (SDN);
- Big Data Analysis and Technologies (Spark, Hadoop, R, ...), Machine Learning;
- Distributed Systems and GPGPU Programming (CUDA and OpenCL);
- Full Stack Web Development and Responsive Web Design.

■ **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 (in Python) for ensuring the quality of the build process and report a list of deviations from the company policies;
- Improve the Xymon monitoring by developing new checks and fixing the existing ones;
- Configure network services (Postfix, BIND Caching DNS, Squid);
- Integrate the customer's software applications on their production systems.

## Technologies

- Linux RHEL/CentOS/SLES, RedHat Cluster Suite;
- Postfix mail server, BIND DNS server, Proxy Squid, NFS, SAN, awstats;
- Amazon Web Services (AWS);
- Travis CI, Jenkins CI, Git, GitLab.

## Certifications and Completed MOOCs

### BIG DATA and MACHINE LEARNING

*The Johns Hopkins University on Coursera*

Data Science Specialization

- The Data Scientists Toolbox;
- R Programming;
- Getting and Cleaning Data;
- Exploratory Data Analysis;
- Reproducible Research.

*Berkeley University & Databricks on edX*

Big Data XSeries

- Introduction to Big Data with Apache Spark;
- Scalable Machine Learning.

*Université de Strasbourg on FUN*

Stochastic Evolutionary Optimization

*Stanford University on Coursera*

Machine Learning

*Microsoft on edX*

Introduction to R

*Harvard University on edX*

Statistics and R for Life Sciences

### BUSINESS

*Ludwig-Maximilians Universität München on Coursera*

Competitive Strategy

### CLOUD COMPUTING

*University of Illinois at Urbana-Champaign on Coursera*

Cloud Computing Applications

Cloud Networking

### PROGRAMMING

*University of Illinois at Urbana-Champaign on Coursera*

Heterogeneous Parallel Programming

*École Polytechnique Fédérale de Lausanne on Coursera*

Introduction à la programmation orientée objet en C++)

*Universidad Carlos III de Madrid on edX*

Introduction to Programming with Java – part 1

*The Hong Kong University of Science and Technology on edX*

Introduction to Java Programming – part 2

*Université catholique de Louvain on edX*

Paradigms of Computer Programming – Fundamentals

*University of Michigan on Coursera*

Using Python to Access Web Data

## WEB PROGRAMMING

*W3C on edX*

Learn HTML5 from W3C

*University of London on Coursera*

Responsive Website Basics: Code with HTML, CSS, and JavaScript

*University of Michigan on Coursera*

Introduction to HTML5

## OTHER DOMAINS

*University of California, san Diego on Coursera*

How to Learn: powerful mental tools to help you master tough subjects

## December 2014 – January 2015

## Networking Architect

Design and setup 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

L3 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 Raspscontrol), 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 “*Frodo*” (now known as Kodi);
- The OCaml compiler, liquidsoap 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 administrator 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 software 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 administrator 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 physical servers and virtualized server images from the Turin data-center 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 usability 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 Atlant (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: DSL, 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 academy 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, not 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

**September 2014 – Coursera, edX, Udacity, and FUN MOOCs**

Lifelong learning for professional development and fun: several MOOCs completed, mainly on Data Science, Big Data, Cloud Computing, and parallel/WEB/generic programming.

**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**

2015 – Big Data XSeries Certificate – Berkeley University & Databricks (edX).

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 (Cisco LAN Switch Configuration) Certified.