

# Engineering Director

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Rabat, Morocco

## Tools, Skills and Technologies

### Operating Systems

Linux (all major distributions: Debian, Redhat), UNIX (FreeBSD, HP UX, MAC OS X), Cisco IOS, Vyatta, Quagga, JunOS, Busybox

### E-mail services

Postfix, Gmail (Mastering), Dovecot, Procmail, Fetchmail, Greyfix

### WEB/ Cache

Apache, nginx, Tomcat, Squid, Varnish, Haproxy, Radware

### Domain Name Server

Bind9, tinyDNS, aDNS, participation aux tests de Bind10 ( isc.org ) avec Buildot

### Virtualization and Container

VMware, Citrix, Docker, Kubernetes, Vservers

### Firewalls, Antivirus, and IDS

Netfilter, Ipfw, Tripwire, Cisco ASA, Huawei Eudemon, Netscreen, McAfee

### Security

Iso27001, Mehari, OpenSCAP, SIMS (Mastering), UTM (Mastering)

### Télécom et transmission

Technologie VSAT, MPLS, Téléphonie ( SIP), SMSC, Twilio, Wireless, Mastering all kind of terminals

### Tunneling

Cisco IPsec, GRE, VPN ( PPTP, IPIP, OpenVPN ), Tunnel broker (6in4), BGP

### Monitoring and Supervision

Nagios, Cacti, Munin, ntop, Monit, HPOM, Prometheus and Grafana

### Troubleshooting

vmstat, iotop, tcpdump, ethereal, htop, sar, glances, ltrace, strace, dtrace

### Deployment, orchestration, and build

Fabric, Capistrano, Vagrant, Terraform

### Languages (computer)

Basic, Bash (shell scripting), C, Ada95, TCL, Perl, Lua, Golang, Python (Flask),

Ruby (Sinatra), Z, Prolog, C++, Scala

### Java Programming

Java EE, Spring Boot, Hibernate, Maven

### Graphics User Interfaces

Gtk, TK, WxWidget, Qt

### Configuration management

Ansible, Salt, HPSSA

### Continuous integration

Travis-ci

### Issue tracking

Atlassian Jira, RT, OTRS, HPSM

### Databases

MySQL, PostgreSQL, Memcached, Redis, Cassandra

### Message Broker

RabbitMQ, Gearman, Beanstalkd

### Emulator

Kannel, SMPPSim, Qemu ( MIPS, x86, ARM )

### Backup & storage

Netbackup, Bacula, Rsnapshot, Rsync

### Documentation

XMind, Sharepoint, Ms Visio, Dia, Wikimedia, Confluence

### Text Editor and IDE

Vim, Emacs, IntelliJ IDEA: PyCharm

### Project management

Trello, Agile : ScrumBan, Kanban

### SCM and Revision control platform

Git, RCS, Bitbucket, Github Enterprise

### Cloud provider

Amazon Web Services, HP Helion, DigitalOcean, Vultr, Civo

### Languages (naturals)

Arabic, Amazigh, English, German(Novice)

### Research papers deposit

Acm, ResearchGate, Academia.edu, IETF

## Current Professional Experience

### **Native LABs (Research in Interactive IT Laboratories) – (April 2019 - Present) - Rabat**

#### **Engineering Director**

IT Infrastructures and Net-cops  
Internet Protocol next generation and tunnels mastering  
National network's watch-guard: CERT, NTP, K-root-servers, Debian security, Kernel, GNU, DNS, IPv6  
Architecting software with turing machine and automatos  
Creator of imperative programming languages ( LALR, LR, LL ) and reviewer of code ( Semantic expert )  
Laboratories of interactive technologies: mnx.technology, S.A.S  
Cryptography and architecting networks  
Cybersecurity intelligence solutions  
TCP/IP and hole of Internet protocol tuning and mastering  
Appliances creator and architect: NLX, NLV, NLB, NL-FW, NLR

## Previous Professional Experiences

### **DXC Technology (Hewlett Packard Enterprise and CSC) – (February 2015 - Present) - Rabat**

#### **Senior Delivery Lead Linux**

Proficiency with HP SRA tools and ITO ecosystem  
Mentoring and leading a team of Linux System Administrator  
Technical meetings animation (Daily Stand-up, Retro)  
Delivery management using the Kanban methodology  
Managed cloud, build and provisioning of customer instances in the HP Helion cloud platform  
Perform day-to-day system administration duties on RHEL 7.x Linux servers and PaaS services, supporting business-critical systems  
Automation using HPSA, deployment, and orchestration with Ansible  
Respond to and resolve incident tickets and monitoring alerts  
Much development of tools in Python, Perl, Bash, and Golang ( anti MITM attacks in LANs for PCI DSS certification )  
Mastering ITIL process  
Maintain Docker Staging and Production environment  
Analysis and Prediction of CI Capabilities and Performance with the QlikView Based HP NGDM Tool  
Automate common procedures used to resolve incidents and monitoring alerts  
Drafting of procedures and technical manuals  
Technical studies of projects, change Processing (RFC)  
Remediation of Red Hat Server Vulnerabilities  
Preventive maintenance N3 and customer support according to ITIL processes  
Maintain collaboration tool Atlassian Jira and Confluence

### **Capgemini - (February 2014 - January 2015) - Rabat**

#### **Senior Infrastructure and security Consultant**

Managed Linux servers within a shared team  
Installation of new Linux production machines according to Capgemini standards  
Maintain backup of servers and troubleshooting NetBackup servers  
Monitoring and supervision with Nagios and HPOM (A fork of Cacti)  
Administered and maintenance of Red Hat, Debian, Centos servers (physical and virtual)  
Analysis of machine performance and resource management (memories, CPU (s), disks)  
Write interactive, self-documenting, and user-friendly console-based program  
Technical studies, diagnosis of anomalies and remediation  
Virtualization with VMware  
Technical Support N3  
Capacity planning, Bottleneck identification  
Processing of work requests in the framework of mini projects  
Network and security engineering backup: Cisco, ASA, Fortigate, Juniper, IPSec VPN

### **Native LABS - (June 2011 - Present) – Rabat**

#### **Co-Founder and CTO**

Project management an agile environment: Scrumban methodology  
Mentoring and leading the dev team and ops  
Managing resources, portfolio and project budget  
Define the company's strategy at the technical operations level  
Training and facilitation of teams  
Technical meetings animation (Daily Stand-up, Retro)  
Incident Management, Investigation and Resolution Tracking with the OTRS Tool  
Build of a VPN Web platform beyond the Internet protocol for connecting remote cloud sites  
Maintain technologies stack of the main application:  
Ubuntu, Laravel, beanstalkd, Redis, Apache, PHP, Nodejs, Gearman, IPv6, REST API, AngularJS  
Operating in high-traffic web applications based on Linux  
Maintain of a web cluster consisting of thirty Linux machines, Nginx, MySQL, Haproxy  
Audit System and infrastructure analysis  
MySQL replication and Linux Ubuntu tuning and Hardening

Development of solutions in Bash, Python, Makefile  
Administering the Netfilter firewall using ufw  
Supervision and monitoring with Nagios, Munin  
Writing internal documentation in MediaWiki

#### **AL Baraka - (December 2007 - April 2010) - Rabat**

##### **Chief information security officer - CISO**

Definition and implementation of a security perimeter within the institution  
Training and awareness-raising for employees  
Network security, review and validation of firewall rules, intrusion testing  
The accompaniment of the business on its sensitive projects to enable it to apprehend and to control its risk in accordance with shared objectives  
Architecting and Deployment of new financial information systems (T24 – Temenos product)  
Performs web application intrusion tests, infrastructure, networks  
(Internal / external), physical security, wireless technologies  
Performs safety escort and inspection  
Safety throughout the project life cycle (feasibility, planning, implementation, post-implementation).  
Deploying an MPLS VPN Network  
Set up an open source solution against ARP attacks (man in the middle)  
Implementation of secure structures, maintenance of backups  
Migrating from Institutional Infrastructure to Linux, Cisco Appliance  
Review and validation of institutional tender documents  
Deployment and foundation of a DMZ  
Setting up an open source IDS (Snort + ACID)  
Other systems administrating exercises:  
Administration of headquarters and branch networks (more than 1000 users)  
Installing Spark instant messaging solution based on Java, Jabber, MySQL  
Installing Request Tracker Ticketing Tools and Reporting in Perl / Bash / PostgreSQL  
Installing a master and slave DNS server with internal and external zones  
Installing Nagios with a notification system via SMS  
Tuning and Hardening of Debian and Centos for production Servers

#### **AFNIC - (December 2005 – July 2006) – Paris**

##### **Senior Network and Security Engineer**

Administered Domain name servers (BIND) and NSD  
Maintenance of the association's network in different sites  
Postfix-based messaging administration  
Supervision and monitoring with Nagios and Cacti  
Technical Support and Helpdesk Engineering  
Participated in the Migration of the institution Network from Cisco Platform to Juniper  
Setting up the Netscreen firewall, generating the Matrix Flow  
Significant experience with Nortel, Cisco, Juniper, Netscreen, HP Procurve  
Technical Audit  
Extensive interviewing responsibilities with French NIC  
Ecosystem: BGP, Peering, VLAN, Perl, Python, Postfix, JunOS

## **Education**

#### **Institute of Engineering in Mathematics and Computer Sciences - University of Valenciennes, France (June 2003)**

Distributed Systems	Computability and Complexity	Compilers using Lex and Yacc
Operating Systems	Advanced Networking	Graphs advanced
Software Engineering	Data Structures	Automatas

##### **Thesis :**

Strength of Bipartite networks against attacks and failure

## **Personal interests**

Meetup organizer of Rabat groups: CTO, Golang, Blockchain  
Debian/Ubuntu Maintainer and participation in various Debian files  
Reading, writing technical articles and publishing on international blogs  
Active member of Nagios exchange community plugin (Wol, ovpnview, whois)  
Technical reviewer of books (Haskell, Docker patterns, Nagios 3)  
Participation in various community activities Open Source, Github, ACM, IETF, IPv6  
Passive member of Moroccan security team ( morx.org ), hacker and national watcher  
National security guard : CERT, NTP, Root servers -K, RIPE, DNS, Debian security, BGP, IPv6  
Active member of RIPE Network Coordination Center Morocco

## Publications

### Publication In Progress :

2019 : LALR for imperative language named PASP and reverse engineering of ADA compiler GNAT  
2019 : Reinventing head overflow in MIPS, ARM, and x86 architectures  
2019 : Creating and design of the protocol embedded IRIZ as header in Babel  
2019 : Continuity and Re-design of the Operating system Noor for Babel services on MIPS appliances  
2019 : Creating and modeling secure infrastructure for root servers -K in Morocco  
2019 : Importing and implementing k-root.servers.net, debian.mil.ma, ntp.mil.ma, cert.mil.ma in Morocco

### Draft Published :

2019 : Strength of root servers against attacks and failure (Ripe, Academia, ResearchGate)

### Practices and Design during professional :

2003 : Development of a search engine in (PHP, MySQL)  
2003 : Development of a translator with hachage functions in PHP  
2004 : Development of RESA application in (PHP4, MySQL, XML and POP3) modelling in Umbrella  
2005 : Development of a Puzzle Game over network for two person over Internet protocol in Java  
2007 : Development of a scanner web application in Python (Social media, Json, XML, Intelligent threat of exception, injective, surjective functions as example of kind of scanning)  
2008 : Development of a browser in C++ and Qt based on Webkit Mozilla engine  
2009 : Development of noor operating system based on Linux Kernel for ARM architecture (Qemu Simulator)  
2010 : Development and design of a platform for SMS pushing using Kannel for a Banking structure  
2011 : Development and objects modeling an IUTMS (Intelligent Unified Threats Management System) modelling in XMind  
2013 : Development of a web platform: Tunnel Broker IPv6 / IPv4 as a Transition methods (RFC 3053) (Python, C, Makefile)  
2013 : Development of the web social media platform Dikr for monajat sharing in (PHP, MySQL) with vote option and messaging  
2014 : Modeling SDN libraries in Laravel framework and creating a platform for interconnecting remote networks (Iot, cloud platform, routing engines, ...)  
2018 : Development of harp tool to stop MITM attacks and notifier in Bash, Perl and Python for Citrix infrastructures