

# Housseem Medhioub

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## WORK EXPERIENCE

### Cloud Computing Architect

Jan 2014 - present

#### Metanext Consulting

### Cloud Computing R&D Engineer

Jun 2008 - Dec 2013

#### Institut Mines-Télécom | Télécom SudParis

Research engineer and platform administrator of the Network and Cloud Federation platform that contains 608 Intel Xeon CPU Cores, 3.2 To RAM and 120 To of storage. More details about NCF is available her: [NCF description](#)

## COMPUTER SKILLS

### Virtualisation and cloud technologies

- XEN, KVM, Microsoft Hyper-V, Citrix XenServer, VMware Server, VirtualBox
- OpenStack, OpenNebula, Eucalyptus, OpenQRM

### Data storage

- MySQL, PostgreSQL
- OracleDB
- eXist-db
- tahoeDB
- Hadoop HDFS
- CouchDB
- Cassandra

### Frameworks & Tools

- RabbitMQ, ZeroMQ
- Globus Toolkit
- Eclipse, Netbeans, Visual Studio, PyCharm
- ICEfaces
- Git, Subversion (SVN)

### Programming Languages

- Java (J2SE & J2EE)
- JSP, Servlet, EJB
- .net, Visual Basic, C/C++
- SQL, PL/SQL
- Bash
- Phyton
- HTML, PHP, JavaScript, CSS
- JSON, XML
- Assembly

## Projects

### SAIL

Aug 2010 - Jan 2013

SAIL's (Scalable and Adaptive Internet Solution) objective is the research and development of novel networking technologies using proof-of-concept prototypes to lead the way from current networks to the Network of the Future. SAIL reduces costs for setting up, running, and combining networks, applications and services, increasing the efficiency of deployed resources. SAIL enables the co-existence of legacy and new networks via virtualisation of resources and self-management, fully integrating networking with cloud computing to produce Cloud Networking (CloNe). [\[SAIL Project Website\]](#)

### CompatibleOne

Jan 2011 - Jan 2013

CompatibleOne was launched as a collaborative project to perform research work and to come up with ideas addressing the need for interoperability in the field of Cloud Computing. The project quickly evolved until it converged in developing a cloud computing broker as defined by Gartner, i.e. a core cloud computing mechanism providing Intermediation, Aggregation and Arbitration of cloud services. Moreover, the CompatibleOne platform is aligned with the Cloud Computing Reference Architecture of the National Institute of Standards and Technology (NIST, U.S. Department of Commerce). [\[CompatibleOne Project Website\]](#)

### Marguerite

June 2010 - June 2013

Marguerite is a French project (Ile-de-France region project) about a cloud computing infrastructure. This project enables students, trainees and researchers to get access to on-demand cloud computing resources, through services hosted in data centers accessible via the Internet. Examples of related projects that use Marguerite infrastructures are OVS and Lillie. [\[Marguerite\]](#) [\[Open Video Education website\]](#) [\[Lillie website\]](#)

### 4WARD

Jan 2008 - Jun 2010

The strategic objective of 4WARD is to increase the competitiveness of the European networking industry and to improve the quality of life for European citizens by creating a family of dependable and interoperable networks providing direct and ubiquitous access to information. 4WARD's goal is to make the development of networks and networked applications faster and easier, leading to both more advanced and more affordable communication services. 4WARD has performed research on the architecture of a Future Internet adopting a "clean slate" research approach. [\[4ward Project Website\]](#)

### MOBESENS

Jun 2008 - Jun 2011

MOBESENS intends to provide a modular and scalable Integrated

# EDUCATION

## Pierre and Marie Curie University - UPMC

### PhD in Computer Science

2010 - 2013

A Ph.D candidate in Cloud networking

## National School of Engineers of Sfax - ENIS

### Master of Science (MSc)

2007 - 2009

Master of science in New Information Technologies and Dedicated Systems

## National School of Engineers of Sfax - ENIS

### Engineering degree

2005 - 2008

Engineering degree in Computer Science

## Sfax Preparatory Engineering Institute

### Preparatory school

2003 - 2005

Maths and Physics (MP) preparatory school

# LANGUAGES, MISC

## Languages

- Arabic (native language)
- English (good written, good spoken)
- French (excellent written, excellent spoken)

## Miscellaneous

- Adept amateur photographer. My gallery: [\[Houssem Medhioub's Gallery\]](#)
- Actively practicing sports (twice winner of the Tunisian basketball school championship)
- Good social skills
- Valid driving license

# Publications

## Conferences

1. Houssem Medhioub, Bilel Msekni, Djamal Zeghlache, **OCNI - Open Cloud Networking Interface**, ICCCN 2013, International Conference on Computer Communications and Networks, July 30 - August 2, 2013, Nassau Bahamas.
2. Suksant Sae Lor, Luis M. Vaquero, Dev Audsin, Paul Murray (HP Labs), Hareesh Puthalath, Bob Melander, Azimeh Sefidcon (Ericsson Research), Joao Soares, Marcio Melo, Jorge Carapinha (Portugal Telecom Inovacao), Houssem Medhioub, Djamal Zeghlache (Institut Mines-Telecom), **Scalable Network-Aware Data Centre Federation**, ICON 2012, 18th IEEE International conference on networks, Dec 12-14, 2012, Singapore. [\[Link IEEE\]](#) [\[Bibtex\]](#)
3. Houssem Medhioub, Ines Houidi, Wajdi Louati, Djamal Zeghlache, **Design, Implementation and Evaluation of Virtual Resource Description and Clustering Framework**, AINA2011, 25th IEEE International Conference on Advanced Information Networking and Applications, Biopolis, Singapore, March 2011, pp: 83-89. [\[Link IEEE\]](#) [\[Link ACM\]](#) [\[Bibtex\]](#) [\[Slides\]](#)
4. Peter Schoo, Volker Fusenig, Victor Souza, Márcio Melo, Paul Murray, Hervé Debar, Houssem Medhioub, Djamal Zeghlache, **Challenges for Cloud Networking Security**, MONAMI 2010: 298-313. [\[Link Springer\]](#) [\[Link HP\]](#) [\[Bibtex\]](#)
5. Éric Renault, Wajdi Louati, Ines Houidi, Houssem Medhioub, **A Framework to Describe and Search for Virtual Resource Objects**, FGIT, Future Generation Information Technology, 2010, Volume 6485/2010, 208-219, DOI: 10.1007/978-3-642-17569-5\_22. [\[Link Springer\]](#) [\[Bibtex\]](#)
6. Éric Renault, Wassim Drira, Houssem Medhioub, Djamal Zeghlache, **Management and semantic description of objects for the future internet**, ICUFN, Second International Conference on Ubiquitous and Future Networks, 2010, pp. 291 -296. [\[Link IEEE\]](#) [\[Bibtex\]](#)

## Deliverables

Communication Technology based solution for water quality monitoring. It will enable data to be gathered quickly and reported across wide areas. [\[Mobesens Project Website\]](#)

## EASI-Clouds

Sep 2011 - Aug 2014

The objective of EASI-CLOUDS (Extendable Architecture and Service Infrastructure for Cloud-Aware Software) is to provide a comprehensive cloud computing infrastructure. This infrastructure will feature the three classical categories of cloud computing offerings – Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS) – with superior reliability, elasticity, security and ease-of-use characteristics at all levels. [\[EASI-Clouds Project Website\]](#)

## FIT (Future Internet of Things)

2012 - 2021

FIT aims to develop an experimental facility, a federated and competitive infrastructure with international visibility and a broad panel of customers. It will provide this facility with a set of complementary components that enable experimentation on innovative services for academic and industrial users. The project will give French Internet stakeholders a means to experiment on mobile wireless communications at the network and application layers thereby accelerating the design of advanced networking technologies for the Future Internet. [\[FIT Project Website\]](#)

## XLcloud

Jan 2012 - Dec 2015

XLcloud aims to define and demonstrate the principles of HPC as a Service (High Performance Computing) for all those applications that involve highly intensive calculations. [\[XLcloud Project Website\]](#)

## Horizon

2008 - 2010

The goal of this project is to conceive and test a new architecture for a post IP environment. This post IP architecture is mainly based on virtual networking with a piloting system able to cope with the constraints. This architecture is intelligence oriented using mechanisms coming from Multi Agent systems. [\[Horizon Project Website\]](#)

1. **SAIL-D.D.1: Cloud network architecture description**, version 2.0 [\[Link\]](#) [\[Link SAIL website\]](#)

*This document describes the first complete version of the Cloud Networking architecture proposed by SAIL WPD. The concept of cloud networking is introduced in a multi-administrative domain scenario, where network and data centre domains exist and must interact through defined interfaces to provide a service to cloud customers.*

2. **SAIL-D.D.2: Description of implemented prototype**, [\[Link\]](#) [\[Link SAIL website\]](#)

*This document describes the implementation of the Cloud Networking (CloNe) prototyping.*

3. **SAIL-D.D.3: CloNe - Refined Architecture**, [\[Link\]](#) [\[Link SAIL website\]](#)

*This document describes the final cloud networking architecture proposed by SAIL.*

## Thesis

- Master report (in french): **Description et regroupement de ressources pour les réseaux virtuels** [\[Report\]](#) [\[Slides\]](#)
- Internship report (in french): **Etude et installation des services de grille sous Globus** [\[Report\]](#) [\[Technical report: HowTo install Globus Toolkit 4.0.6\]](#)