

# CLOVIS CHAPMAN

43 The Oval, Tullyvale, Dublin 18, Ireland  
phone: +353 (83) 419 0246  
email: [clovisc@gmail.com](mailto:clovisc@gmail.com)

---

## CAREER PROFILE

Software engineer with 10 years of experience in both research and industry, I have been working on the design and development of large scale distributed systems and data mining applications with particular focus on **Cloud and Big data technologies**. I have been involved in significant UK and European research projects in this domain, more recently working alongside IBM research, Telefonica I&D, SAP and others on the definition of an open architecture for an Infrastructure-as-a-Service Cloud. I have also provided consultancy services to companies wishing to scale Web-based IT service offerings and have lectured Master courses in distributed systems. I now work towards bringing these technologies to an enterprise focused market at **Dell's Cloud Research and Development center**.

*Specialties: Cloud (vCloud, OpenStack, OpenNebula, etc.), Big data (MongoDB, HDFS, Hive, RabbitMQ, etc.), Java Development and Web related technologies (Spring, Hibernate, MySQL, JQuery, etc.), Model-Driven Architecture (UML, MOF, etc.), project management (Maven, Gerrit, Git, Jira, Jenkins), Agile and Scrum.*

---

## EMPLOYMENT HISTORY

### Senior Advisor, Cloud R&D Center, Dell

Sep-11 — Now

Dublin, Ireland

Dell's new Cloud R&D Centre acts as a **proof of concept laboratory**, helping Dell leverage their existing hardware platforms while driving innovation, new development work and leadership in **Cloud computing**. As one of the early members of the centre, I have participated in the definition of **agile based** R&D processes to support the development of new cloud service offerings and have worked on the design and implementation of various **Infrastructure-as-a-Service** capabilities based on open source frameworks such as OpenStack.

Achievements:

- Architecture and development of an **Identity-as-a-Service platform** to provide unified user and access management and auditing capabilities across all Dell Cloud services (e.g. vCloud and OpenStack). As one of the initial project founders, I have aimed to exploit a portfolio of existing and emerging standards such as the **Simple Cloud Identity Management framework** and explore the use of a diverse technology set (*Spring, OpenDJ, RabbitMQ, HAProxy, HDFS, Hive, Flume, Puppet*). This platform has been deployed as a central component of Dell's Cloud offerings Q3 2012 to cater for an initial ~50 000 users and 99.95% SLA.
- Coordinate related integration efforts, deployment and L3 support operations across multiple services and global teams. Obtained internal award for *outstanding contribution to Cloud development efforts at Dell* for this work.
- Participate in various academic outreach efforts (internships, research talks, etc.).

### Senior Software Engineer, Market Sentinel, Ltd.

Jul-10 — Aug-11

London, UK

Market Sentinel is a young start-up that specializes in online conversation monitoring and semantic search and now employs over 30 people world-wide. I was involved in the design and development of data mining services for social media, focusing on various platforms such as Facebook, Twitter and the general web.

Achievements:

- Creator and lead architect of a **Software-as-a-Service platform for Facebook analytics**, which enables harvesting and archiving of conversational data and provides detailed linguistic analysis and activity reporting. I lead the development of the product and was involved in all aspects of marketing and product management (*Agile/Scrum methodologies*). The platform began servicing several blue-chip companies aiming to expand their social media presence Q1 2011.
- Involved in the design and development of joint platform tools (*Spring, Hibernate, ActiveMQ, MongoDB, etc.*). I also aimed to leverage open and commercial Cloud and Grid technologies to facilitate the distribution of intensive software processes (AWS EC2, OpenNebula, etc.) and minimize hardware investment.

## Research Fellow, University College London

Oct-02 — Jun-10

*Software Systems Engineering Group, London, UK*

Involved in 2 major research projects centered on grid and cloud computing technologies: I **authored over 25 research publications** (cited ~300 times) and participated in multiple open source development efforts.

RESERVOIR Project (Jan-08 – Jun-10)

The *Resources and Services Virtualization without Barriers* (RESERVOIR) project is a joint research effort of 13 academic and commercial organizations in Europe led by IBM to develop an open **cloud computing** infrastructure by building on emerging virtualization technologies (Xen, KVM, etc.). It was also one of the largest Cloud related research projects with funding of over 17m€.

Achievements:

- Led UCL activities regarding the specification of a service deployment language which builds on the **Open Virtualization Format** standard (backed by VMWare) to describe the software architecture of systems to be hosted on a cloud, including **service elasticity**, and **quality of service objectives (SLA)** using a **model-driven approach (OMG MDA)**.
- Involved in the development of a service lifecycle management framework to enable the provisioning and monitoring of IT services hosted on a cloud computing infrastructure (using Java, libvirt, OpenNebula, etc.), released as Open Source as the Lattice Monitoring Framework <http://www.reservoir-fp7.eu/> and Claudia Platform <http://claudia.morfeo-project.org/>.

eMinerals Project (Oct-02 – Oct-07)

eMinerals is a UK e-science project involving the development of a **production-level computational grid infrastructure** covering 7 UK institutions to support highly resource demanding scientific applications on distributed heterogeneous resources.

Achievements:

- Involved in the deployment, maintenance and support of grid middleware, computational clusters and data storage vaults across 6 UK sites.
- Developed federation and workflow management tools to facilitate the distribution of computational tasks across multiple resources using Web Service and grid standards and tools (BPEL, WSRF, Axis, etc). In particular, I was involved in the implementation of a **Web Service interface** to the widely deployed **Condor resource management system** (integrated from v6.8) <http://www.cs.wisc.edu/condor/>.
- Designed task scheduling algorithms using **predictive mechanisms** (Kalman filters) which resulted in a reduction in turn-around times of tasks of up to 60%.

---

## OTHER

### Software Consultant

Jun-09 — Now

I have worked as a software consultant on a **freelance** basis, providing technical expertise to various companies in the production of scalable software systems and definition of software development processes.

- **FA Investment, Ltd., London UK (Aug 11 – Sep 11)**: Development of a financial news aggregator built on proprietary semantic web processing abilities. I assisted in the definition of the overall system architecture (Spring, hibernate, MongoDB, etc.) and agile based software development processes.
- **Market Sentinel, Ltd., London UK (Mar 09 – Aug 12)**: Design and implementation of a platform for the dynamic deployment and management of services on Amazon AWS/EC2 resources according to current load and to facilitate software updates, messaging and data sharing across sites (Drools, JMS, etc.).
- **Mobotel, Ltd., London UK (Jun 09 – Nov 09)**: MoboTel supplies telecommunication solutions to SME businesses. I was involved in the prototyping of a data mining solution for mobile-based marketing (Spring, SMS Gateways, Hibernate).

### Teaching, University College London

2004 — 2009

MSc in *Networked Computer Systems* – Lectures and tutorials in Distributed Application Programming at (yearly). Topics included Grid Computing, EJBs, RMI, Servlets/JSP, JMS, Hibernate, etc.

---

---

## EDUCATION

<b>PhD in Computer Science, University College London, UK</b> Thesis title: An Adaptive and Collaborative Grid Scheduling Framework for Best-Effort Computational Grids (Awarded June 09)	Apr-03 — Jan-09
<b>MSc in Data Communications, Network and Distributed Systems, University College London, UK</b>	Sep-01 — Sep-02
<b>BSc in Computer Science (First Class), King's College London, UK</b>	Sep-98 — Sep-01

---

## TECHNICAL SKILLS AT A GLANCE

Virtualization technologies	OpenNebula, Xen, KVM, OVF, OpenStack, vCloud, etc.	5 years
Data Storage and Mining	MongoDB, Hive, HDFS, Lucene, RabbitMQ, etc.	4 years
Grid Computing	Globus Toolkit, Condor, Sun Grid Engine, JSDL, LSF, etc.	5 years
Web Services technologies and related standards	SCIM, OAuth, WSDL, SOAP, BPEL, XML, XSLT, WSRF, WS-Agreement, WS-Security, etc.	10 years
Web and distributed development	Spring, Spring MVC, Tomcat, Hibernate, Javascript, JQuery, HTTP, CSS, JSP, RMI, JMS, etc.	10 years
Model Driven Architecture	UML, OMG Meta-Object Facility, OCL, HUTN, etc.	10 years
Core Programming	Core Java, J2SE, J2EE, JDBC, SQL, Eclipse, MySQL, etc.	10 Years
Project Management	Git, SVN, Gerrit, Jenkins, Jira, etc.	4 years

**Languages:** English - fluent in reading, writing and speaking; French - mother tongue.

---

## REFERENCES AVAILABLE ON DEMAND

---

## SELECTED PUBLICATIONS

*Selected Publications only (full list of 26 papers available on <http://www.cs.ucl.ac.uk/staff/c.chapman>)*

2012

Clovis Chapman, Wolfgang Emmerich, Fermin Galan Marquez, Stuart Clayman and Alex Galis (2012) **Software Architecture Definition for On-demand Cloud Provisioning (extended edition)**. Cluster Computing Journal, Springer. [ Editor's pick – ACM's Computing Reviews ]

Stuart Clayman et al. (2012) **Monitoring Services in a Federated Cloud**. Achieving Federated and Self-Manageable Cloud Infrastructures, IGI Global.

2011

Maik Lindner et al. (2011) **The Cloud Supply Chain: A framework for Information, Monitoring, Accounting and Billing**. 2<sup>nd</sup> International ICST Conference on Cloud Computing (CloudComp 2010), Barcelona, Spain.

2010

Clovis Chapman, Wolfgang Emmerich, Fermin Galan Marquez, Stuart Clayman and Alex Galis (2010) **Software Architecture Definition for On-demand Cloud Provisioning**. Proceedings of the 19<sup>th</sup> ACM International Symposium on High Performance Distributed Computing (HPDC'10), Chicago, USA.

Clovis Chapman, Wolfgang Emmerich, Fermin Galan Marquez, Stuart Clayman and Alex Galis (2010) **Elastic Service Definition in Computational Clouds**. Proceedings of the 1<sup>st</sup> IFIP/IEEE Int. Workshop on Cloud Management CloudMan/NOMS, Osaka, Japan.

Luis Vaquero et al. (2010) **Principles, Methodology and Tools for Engineering Cloud Computing Systems**. Advanced Design Approaches to Emerging Software Systems: principles, methodology and tools (ADA2ESS 2010), IGI Global.

Stuart Clayman et al. (2010) **Monitoring Service Clouds in the Future Internet**. Proceedings of the 5th Future Internet Assembly, Valencia.

2009

Benny Rochwerger et al. (2009) **Design for Future Internet Service Infrastructures**. Towards the Future Internet – A European Research Perspective, IOS Press.

Clovis Chapman (2009) **An Adaptive and Cooperative Scheduling Framework for Best-effort Computational Grids**. PhD Thesis, University College London, UK.

2007

Clovis Chapman, Mirco Musolesi, Wolfgang Emmerich and Cecilia Mascolo (2007) **Predictive Resource Scheduling in Computational Grids**. Proceedings of the 21st IEEE International Parallel & Distributed Processing Symposium (IPDPS'07), Long Beach, California.

2006

Clovis Chapman, Andrew M. Walker, Mark Calleja, Richard P. Bruin, Martin T. Dove and Wolfgang Emmerich (2006) **Simple Grid Access using the Business Process Execution Language**. Proceedings of the UK E-Science All Hands Meeting 2006, Nottingham.

---

## SELECTED INVITED INDUSTRIAL TALKS

2012

**Towards a federated cloud ecosystem (Invited Talk)**. 34th International Conference on Software Engineering (ICSE 2012), Zurich, Switzerland, June 2012.

2008

**Optimising Web Service Orchestration, Grid Computing And Service-Level Agreements**. Grid Computing for Financial Services, London, UK, April 2008.

---