

Hewlett-Packard Labs  
Marco Casassa Mont  
CV

PERSONAL INFORMATION

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Nationality Italian, British

OVERVIEW

Marco is a professional with almost 20 years experience in the following areas: ICT, Security, Cloud, Information Management, Policy Management, Identity & Access Management (IAM) and Privacy. He is a Senior Researcher at HP Labs, Cloud & Security Lab, Bristol, UK. Over his 16 years of career at HP, he worked on various projects and areas involving scientific, technical, academic, business and strategic aspects: he technically led R&D activities and externally-funded collaborative projects. He provided technical lead and coordinated teams of people to achieve the objectives.

Marco's current role involves researching and developing new technologies and business opportunities in the space of security and the cloud, including situational awareness and safe information sharing. Some recent Marco's key achievements include:

- **Situational Awareness in the Cloud (2012-ongoing):** development of innovative technologies and demonstrators in the space of situational awareness in the cloud. This involves controller information sharing and next-generation business operation centres for organizations moving their IT in the Cloud (Disaggregated IT scenarios). A first fully working demonstrator and core technologies have been developed and showcased to HP business groups and customers. This is work in progress and involves ongoing collaborations with HP business groups;
- **SILAS (2011-ongoing):** development of innovative solutions in the area of Security Intelligence-as-a-Service (SILAS), bridging the gap between strategic governance and IT operation. This involves leveraging HP core security assets and solutions, such as HP ArcSight and TippingPoint, to provide strategic risk metrics and what-if analysis. It includes ongoing collaboration with HP ESS and a technology transfer to their Security Operation Centre (SOC);
- **Security Analytics (2008-2011):** development and technology transfer of Security Analytics technologies and know-how to HP ESS. Marco specifically led the work in the space of risk assessment and decision support for Security Operation Centres (SOCs) and Identity and Access Management (IAM). This involved successful collaborations and case studies with major HP customers;
- **EnCoRe (2008-2012):** Research, analysis, design and delivery of the technical architecture of collaborative UK EnCoRe Project (Ensuring Consent and Revocation in organisations). Marco led the technical vision around managing consent & revocation. He technically led a team for the implementation of the architecture and collaborated with key partners, such as Oxford University, in the definition of privacy compliance and monitoring solutions. He also coordinated the entire project during the last year of activities and successfully delivered it;
- **IAM and Privacy Management (2004-2008):** Research and development of new Identity and Privacy Management solutions for HP Software, including privacy-aware access control and obligation management solutions. Marco led the technical development of new privacy-enhancement technologies that were integrated with HP solutions and transferred to HP businesses;
- **PRIME (2004-2008):** Research, design and development of the architecture of the EU PRIME Project (Privacy and Identity Management for Europe) along with key technologies in the space of privacy-aware information lifecycle management (obligation management). Marco technically led a team in HP Labs to achieve these objectives, during the entire duration of this project.
- **Federated IAM PoC (2006-2007):** Marco successfully led a PoC with HP SW, Intel and BT related to using identity

capable platforms in the context of federated identity management. He specifically focused on provisioning mechanisms to enable identity capable platforms to access federated web services. The outcome of this work was shown at RSA 2007.

Marco's current interests and expertise include: security and privacy; risk assessment and decision support; policy management; data governance; event management and situational awareness; cloud computing; social networking; web technologies; enterprise IT processes and technologies.

Marco's R&D activities have always been driven by the urge of innovating and making progress from a business and scientific perspective. As such, Marco has also been very active in the publication and patenting fronts covering the various areas where he provided technical contributions, including: security, privacy, IAM, policy management, governance and risk management.

Marco successfully filed more than 45 patents covering various technical areas and topics, of which 11 have been granted.

He has more than 50 peer-reviewed papers published in prestigious, international conferences and workshops. He published more than 60 HP Labs external technical reports. He served, as a member of the Technical Program Committees, in more than 50 international conferences and workshops. He has been the General Chair of IEEE Policy 2009 Symposium and the co-chair of the W3C Policy Language Interest Group (PLING) from 2009 to 2011.

Through these experiences Marco developed a strong sense for how security, cloud and information management are key elements for ensuring the smooth evolution of our dependency on ICT systems as individuals, businesses and more generally as a society.

## WORK EXPERIENCE

- |                                       |   |
|---------------------------------------|---|
| • <b>Dates (from – to)</b>            | January, 1996 – present day   |
| • <b>Name and address of employer</b> | Hewlett-Packard Labs, Long Down Avenue, Stoke Gifford, Bristol BS34 8QZ, UK |
| • <b>Type of business or sector</b>   | ICT and Security industry   |
| • <b>Occupation or position held</b>  | Senior research at HP Labs  |

Marco is currently a Senior Research Scientist at the Hewlett-Packard Laboratories in the Cloud & Security Lab, Bristol. He started his career at HP Labs as a Specialist, in 1996 and was promoted to the Expert level in 2004. He has been recently promoted to the Master level (2012).

During his 16 years at HP Labs, Marco developed know-how, technical expertise and interests in various areas, including: security, privacy and identity management, compliance and governance, policy management, trusted infrastructure, adaptive systems, web services and web technologies.

He has been involved in a variety of R&D projects, to deliver innovative solutions to HP business units and research partners. He technically led the development of prototypes, demonstrators and solutions, in various areas, ranging from high-level security governance and risk management to trusted computing and devices. This includes: security analytics solutions; security intelligence and situational awareness services; privacy policy enforcement technologies for access control within enterprises; management and enforcement of privacy obligations within enterprises for regulatory compliance (privacy-aware information lifecycle management); enhanced access control and authorization systems; PKI, digital identities and digital credentials; web services based on emerging cryptographic schemas, such as Identifier-based Encryption (IBE); auditing, accountability and long-term storage solutions. Marco technically led teams of interns during the design and development phases of these projects.

He demonstrated depth and breadth of technical expertise as well as the capacity to leverage multi-disciplinary inputs in order to deliver on his projects. Some recent, high impact, work includes: collaboration with and technology transfers to HP business units in the space of Security Analytics, Identity and Access Management (IAM) and Privacy; technically leading EU/UK funded projects - such as EU PRIME project (Privacy and Identity Management for Europe) and UK EnCoRe project (Ensuring Consent and Revocation). To achieve his objectives Marco led technical teams; worked as a principal architect and designer; he has been a technology evangelist. He published and patented.

Marco currently works in the areas of Safe Cloud, security and situational awareness. He technically leads the development of an HPL funded demonstrator in the space of Situational Awareness-as-a-Service, specifically in the Cyber Security Space, involving building a demonstrator (for customers and HP businesses) showcasing the importance of safe information sharing to enhance cyber situational awareness and providing a general framework to explore various related R&D areas (policy management, controls on information flows, data processing and visualizations, correlations, etc.).

He spent the last 4 years in the area of Security and Identity Analytics to research and develop an innovative methodology and related technologies to provide risk assessment and strategic decision support to key decision makers in the security and business area (e.g. CIOs, CISOs, etc.). He specifically engaged with HP customers in two successful case studies centered on risk assessment and what-if analysis in the areas of IAM and SOC processes. This work was transferred to HP ESS and it is now part of their information assurance service offering.

By leveraging his expertise and know-how matured in security, risk assessment, governance and SOC areas, he identified a major gap existing between strategic governance and IT operations i.e. the fact that it is very hard to leverage information gathered from IT operations to provide decision makers with strategic metrics, risk assessment and better situational awareness. This intuition led, in 2011, to the creation of a new research investigation and project, in the space of Security Intelligence. After a preliminary investigation and research, Marco led a team for the development of a prototype, that demonstrated how to: leverage IT information collected from a variety of sources (including HP ArcSight and TippingPoint); statistically process it; use the outcomes to feed probabilistic, predictive models for what-if analysis; provide strategic metrics and analytic results for risk assessment, governance and decision support. Marco gained the support of HP ESS: he is jointly productizing with them the SILAS solution.

In the last 4 years, Marco has also been the HP Labs technical lead of the collaborative UK EnCoRe project. He drove the vision around consent and revocation management and the overall EnCoRe technical architecture. This works enables users to define their privacy preferences (on how to handle their persona data) as well as organizations to enforce related security and privacy policies. Marco led a team for the development of a related demonstrator, based on the architecture that was used as reference implementation during the project. He coordinated the entire project during the last year and successfully delivered it by accomplishing all the agreed objectives agreed with the funding organisations.

To successfully achieve this objective, Marco leveraged his know-how, multidisciplinary inputs and technical expertise that he matured in the EU PRIME project, where he worked from 2004 till 2008, as the lead HP Labs Architect. He actively contributed to the specification of a privacy-aware architecture for Identity and Access Management involving users and organizations. In that context, he also researched and technically led the work on privacy-obligation management and privacy-aware information lifecycle management. This included designing, architecting and developing a prototype and demonstrator. Marco's work was a key HPL deliverables and contributed to the overall success of the project.

From 2004 and 2008 Marco also engaged in various R&D activities, jointly with HP SW/ IAM practice, in the space of privacy-aware access control and privacy-aware obligation management. Marco investigated, designed and implemented technical solutions for including privacy policies and enforcing them in traditional access control solutions, as well as providing innovative ways to manage the lifecycle of personal information, collected by organizations, based on users' preferences. These technical solutions were integrated with HP Identity Management solutions (specifically HP Select Access and HP Select Identity) to demonstrate their value and feasibility. Marco led the technology and know-how transfer of these solutions to HP SW.

In this context, Marco was also the HP technical lead of a successful PoC jointly carried out by HP Labs, HP SW, Intel and BT, to provide federated identity management and authorization capabilities to identity capable platforms. The outcomes of this PoC were showcased at RSA 2007.

Marco has been very active on the academic front. He is recognized by the academic community as a key contributor in the space of privacy, policy management, IAM and Security. During the last 10 years he published more than 50 peer-reviewed papers in international conferences and served as a member of more than 50 TPCs of international conferences.

Marco is also an inventor. He filed more than 45 patents on a variety of topics including cryptography, security, privacy, policy management, IAM, governance and risk assessment. 11 of these patents have been granted.

A list of other key contributions made by Marco between 1996 and 2004 follow:

- **Identity and Access Management (2002-2004):** research on various aspects related to Identity and Access Management. Marco was the Lab Liaison with the HP SW/IAM practice and the HP Security Office. This technical investigation brought to the identification of privacy as an area to diversify IAM solutions and the follow-up R&D work on privacy-aware access control and privacy-aware obligation management. He wrote various papers in this space and filed patents.
- **PoC on Identifier-based Encryption (2002-2003):** Marco was the technical lead of a PoC with the UK National Health Care (NHS) involving Identifier-based Encryption (IBE) to protect the exchange of sensitive emails. The technical solution was successfully delivered. He wrote various papers in this space and filed patents.
- **Applications of Identifier-based Encryption (2001-2003):** research on various applications and services that could leverage Identifier-based Encryption (IBE) technology, developed in his Lab. Marco applied this innovative cryptographic schema to the enterprise and Internet domains by inventing, developing and implementing new systems and solutions, including: an trusted Internet service for time-based release of confidential information; sticky policy management solutions; innovative security challenge and response solutions. He wrote key papers in this space and filed various patents.
- **PKI and Cryptography Investigation (1999-2002):** research and investigation in the space of the PKI and cryptography mechanism. Marco was the reference point in his Lab for topics related to Public Key Infrastructures. He developed various prototypes and demonstrators leveraging PKI and policy management for improved enterprise authentication and access control services. He wrote key papers in this space and filed various patents.
- **Access Control and Policy Management (1998-2001):** research and development in the space of policies, policy refinement and enforcement mechanisms. Marco carried out research on policy, policy enforcement and access controls. He implemented various prototypes focusing on policy-driven access control and authorization, showcases to HP customers and HP businesses. He wrote key papers in this space and filed patents.
- **Internet Service Station and Service Node Manager (1997-1998):** research and development of mechanisms to provide diagnostic of systems via the Internet. Marco developed prototypes and a demonstrator showcased to HP businesses. He wrote related papers.
- **System and Service Management solutions (1996-1997):** research and development of model-based system and service solutions for diagnostic in the IT space. Marco developed diagnostic models, a system GUI and related prototypes showcased to HP businesses.

- **Dates (from – to)** November 1991 – December 1995
- **Name and address of employer** Telesoft S.p.a (now owned by Telecom Italia), Torino, Italy
- **Type of business or sector** IT industry

Marco started his career as a System Engineer, at the end of 1991 at Telesoft SpA (a company owned by Telecom Italia, the national Italian Telecom provider) to be subsequently promoted in 1994 to Senior Architect and System Designer.

He worked as a system architect to design and develop monitoring and management solutions for Telecom Italia's customers with regards to their telecommunication networks and systems.

After his promotion, in 1994, he further contributed to the design and development of solutions for Telecom Italia's customers, mainly banks and telecom service providers. These solutions included trouble-ticketing management systems, network performance analysis, SLA compliance management systems and related reporting systems.

## EDUCATION AND TRAINING

- **Dates (from – to)** From 2003 to 2005
- **Title of qualification awarded** **MSc in Computer Science and Second Computer Science Degree**
- **Level in national classification** Laurea Magistrale in Scienze dell'Informazione – MSc and University-level degree for computer science courses in Italy
- **Name and type of organization** Università di Torino – Computer Science Department, Turin, Italy

providing education and training  
• Principal subjects/occupational skills covered

Specialization in information management, mathematical and logic foundations, data mining, advanced data management principles and technologies and networking technologies.

- Dates (from – to)
- Title of qualification awarded
- Level in national classification
- Name and type of organization providing education and training
- Principal subjects/occupational skills covered

From 1986 to 1990  
**Computer Science Degree with specialization in Advanced Information Management.**

Laurea in Scienze dell'Informazione - University-level degree for computer science courses in Italy

Universita' di Torino – Computer Science Department, Turin, Italy

Specialization in artificial intelligence.

Broad computer science training, mathematics, physics, programming languages, architecture and design methodologies, artificial intelligence, calculus of probability and statistics, information and data management.

- Dates (from – to)
- Title of qualification awarded
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Level in national classification

From 1981 to 1986

**Italian High-school degree - “Diploma di Perito Tecnico ad Indirizzo Industriale”**

High-school – ITIS G. Peano, Corso Venezia, Turin, Italy

Technical and scientific specialization in the area of computer science.

High-school degree

### PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE

ITALIAN

### OTHER LANGUAGES

- Reading skills
- Writing skills
- Verbal skills

#### ENGLISH

Excellent  
Excellent  
Excellent

- Reading skills
- Writing skills
- Verbal skills

#### FRENCH

Medium  
Medium  
Medium

### SOCIAL SKILLS AND COMPETENCES

Marco enjoys working with people, exchanging ideas and being part of teams. His approach consists in giving contributions with ideas, listening and learning from others and getting other people consent and support based on his collaboration and technical leadership.

By working at HP Labs and living in UK Marco experienced and practiced these skills in a very heterogeneous environment, by being part of teams involving people with

different nationalities, skills and cultural backgrounds.

ORGANISATIONAL SKILLS AND COMPETENCES

Marco got the opportunity to coordinate and technically lead teams at work. He is particularly good at dealing with complex activities and problems, identifying suitable tasks and ensuring they are executed, either by himself or by the team he coordinates. He likes setting clear objectives for himself and the team and organize the required work to pursue them. Marco gained a lot of experience by working with HP Business Units and in the UK EnCoRe and EU PRIME project: he matured his capability to understand different realities and achieve consensus in different organizational contexts.

TECHNICAL SKILLS AND COMPETENCES

After training in computer science and getting his degrees and MsC, Marco was exposed to all phases of software engineering and development in most of current platforms (INTEL, SUN, HP, etc.), operating systems (Windows, UNIX/Linux, HP-UX, etc.) and languages (C, Java, C#, JavaScript, etc.). Marco developed his expertise in ITC and security at HP Labs, in the last 15 years by working in various projects involving security at different level of abstractions, including: cryptography, networking and communication security, system, application, service governance and risk assessment levels. Marco is currently an expert on security, privacy and identity management in terms of state-of-the art solutions and technologies (at different levels of abstraction within the IT stack) and advanced research topics. He also matured interdisciplinary expertise about security, privacy, risk assessment and decision support at the business level. Marco's additional technical skills and competences include: Analysis of complex problems; Delivery of solutions; Identification of research areas/business opportunities; Networking with people; Information and requirement gathering; Definition of specifications; Architecture Design; Solution and System Design; Solution and System Implementation; Security, Identity & Privacy Management; Telecom know-how; Consulting & Integration.

ADDITIONAL INFORMATION

Up-to-date information about my work and activities can be found on my personal web site, HPL blog and Twitter:

- HPL Personal Web Site: [http://www.hpl.hp.com/personal/Marco\\_Casassa\\_Mont/](http://www.hpl.hp.com/personal/Marco_Casassa_Mont/)
- HPL Blog site on Research on Security and Innovation in the Cloud: <http://h30507.www3.hp.com/t5/Research-on-Security-and/bg-p/163>
- Twitter site: <http://twitter.com/MCasassaMont>