



MASTER Monitoring Infrastructure Opportunity for a 6-month internship

SAP RESEARCH - SAP LABS FRANCE

NICE - SOPHIA ANTIPOLIS

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MASTER is a collaborative project funded under the EU 7th Research Framework Programme (<http://www.master-fp7.eu>). The project gathers 14 partners, including world major industry players, such as IBM, Deloitte, British Telecom and ATOS Origin, as well as highly reputable academic institutions, such as ETH, University of Stuttgart, University of Trento and Dublin College University.

The business of the future is likely to be characterised by highly dynamic service-oriented architectures (SOAs). In such environments, outsourcing and distributed management constitute the norm rather than the exception with increasing complexity in security and trust requirements from regulations and business standards. The project aims to provide methodologies and infrastructures that facilitate monitoring, enforcement, and audit of quantifiable indicators on the security of business processes. In other words, the goal of MASTER is to provide an integrated and systematic compliance architecture. The project outcome should help to provide manageable assurance of the security and trust levels, and regulatory compliance of SOA-based business processes within centralized, distributed (multi-domain) and outsourcing environments.

From SAP's perspective, we focus on various research and development aspects of the MASTER monitoring infrastructure, a core component that provides real-time information of the actual security status of SOA-based business processes at different levels of granularity. Therefore, we are now looking for a highly capable intern who is interested to be actively involved in the following project activities:

- Threat analysis of the MASTER monitoring infrastructure
- Evaluation of privacy-preserving and anonymisation techniques suitable for MASTER
- Design of a supervisory mechanism (control cockpit) associated with assessment of security indicators

This internship is based in SAP Labs France, Sophia Antipolis, for a period of 6 months, and it is expected to commence in June 2009. We expect that approximately 70% of the internship will be spent on research activities and the remaining on development.

Candidate Profile

- MSc or PhD student with strong academic achievement in fields such as Computer Science and/or Mathematics
- Proficiency in both spoken and written English
- Highly motivated and confident of working independently
- Experience in object-oriented programming languages, preferably Java or C++
- Good knowledge of web technologies, such as XML, web services, SOA and semantic web
- Good oral and written communication skills
- Project experience is an added advantage (but not mandatory)

Internship Context

SAP & SAP Research

As the world's leading provider of business software, SAP delivers products and services that help accelerate business innovation for our customers. We believe that doing so will unleash growth and create significant new value – for our customers, SAP, and ultimately, entire industries and the economy at large. Today, more than 47,800 customers in more than 120 countries run SAP applications – from distinct solutions addressing the needs of small businesses and midsize companies to suite offerings for global organizations.

SAP Research –Systematic Thought Leadership for Innovative Business– As the global technology research unit of SAP, SAP Research significantly contributes to SAP's product portfolio and extends SAP's leading position by identifying and shaping emerging IT trends through applied research and corporate venturing.

In contrast to SAP's product groups, which work on new functions and releases, SAP researchers explore opportunities that haven't yet been developed into products. We track technology trends, evaluate the potential impact on SAP solutions and customers, and generate breakthrough technologies. The business model of SAP Research is based on co-innovation through collaborative research. Working with leading universities, partners, customers, and SAP product groups, SAP Research oversees the development of promising ideas and prototypes into market-ready software for maximum customer value.

SAP Research is headquartered in Walldorf, Germany. SAP Research has identified six long-term and global research programs, among them the **Security & Trust Research Program**, which is lead by SAP Research at SAP Labs France.

SAP Research Sophia Antipolis, SAP Research Center Sophia Antipolis is located in the setting of one of the most important scientific parks worldwide. A high concentration of IT and telecommunication industries within walking distance, proximity to partners and customers, as well as the educational establishments in the region provide SRC Sophia Antipolis with an ideal working environment. Based at SAP Labs France, the focus of SRC Sophia Antipolis is mainly in the research field of security and trust. However, of great interest is the work on e-government and public safety applications. Local collaborations with external partners and educational organizations in the region, such as Inria, Eurécom Institute, and the University of Nice Sophia Antipolis, provide a strong benefit to these research activities. SAP Research also participates to the French poles de competitivités *Risques* (Risk) and *Solutions Communicantes Securisées* (Secure Communicating Solutions). Beyond that, SAP Research Sophia Antipolis is collaborating with industrial partners and customers which provide a strong benefit to the research activities.

30 researchers are working at SAP Labs France (among ~200 employees) and are mainly involved on European Research Projects in the area of Security & Trust.

Standard Internship Package

- Salary: depending on the length of the internship and your diploma
- Lunch: SAP Labs France has a local cafeteria; interns contribute 2,15 Euros/lunch, like other SAP employees.
- Holidays: based on French holidays
 - 2009: January 1st; April 13th; May 1st, 8th, 21st; June 1st; July 14th; Aug 15th; Nov 11th; Dec 25th, 31st.
- Travel: no personal travel (your trip to and from Nice) will be paid by SAP.
- Accommodation: we can propose to you an accommodation for the duration of your internship. If you accept, SAP will take care of the rent but 275 Euros will be deducted from your monthly salary. Otherwise you are on your own.

Contacts and Procedure

Please send your CV and any relevant documents to the following persons stating the title of the Internship in the Subject [Internship Application] MASTER Monitoring Infrastructure

Supervisor
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