

Project DEPLOY
Grant Agreement 214158
*“Industrial deployment of advanced system engineering methods for high
productivity and dependability”*



DEPLOY Deliverable D36

D14.12 Collaboration Report

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Executive summary

This document presents achievements obtained during the third year of the project, for establishing links and organizing co-operation activities with other ICT projects under the WP2007/2008 Strategic Objective IST-2007.1.2 « Service and Software Architectures, Infrastructure and Engineering », regarding objectives defined in [D3].

This document completes previous reports [D13] and [D26] covering achievements obtained during the first two years of the project.

1 Introduction

This document presents achievements obtained during the third year of the project, for establishing links and organizing co-operation activities with other ICT projects in the WP2007/2008 Objective Service and Software Architectures, Infrastructure and Engineering.

The co-operation aims at exploiting synergies between the projects and increasing the impact of the ICT initiative. The consortium members commit to provide contributions to the following activities, if applicable:

- **[A1]** Exploitation of synergies / technical concertation: participation to workshops, contribution to some of the working groups.
- **[A2]** Joint exchange, dissemination and training activities.
- **[A3]** Production of dissemination material that can be used for communication with the general public.
- **[A4]** Co-ordination of standardisation efforts.
- **[A5]** Contribution to repositories of reference implementations.

This deliverable only covers the specific activities for collaboration with other projects. The other project WPs cover the individual project activities in some of these areas (e.g., dissemination, standardisation).

The specific plan for collaboration, including the specific working group set up during this project was detailed in [*D3 Collaboration Plan*], released at month 6 . The present document reports on the activities done during the third year, completing the previous reports covering the first two years of the project.

2 Achievements

2.1 Formal Methods for Service Oriented Architecture

FOUNDATION. Following the SSAI FP7 Call1 projects meeting that took place in March 2008 in Brussels, we have identified a common thematic, namely “Formal methods for Service Oriented Architecture”, bridging over DEPLOY main focus (formal methods) and “Internet Technology” mainstream that most FP7 Call1 projects adhere to.

A Discussion Group (FM4SOA) was created, with the objective of determining how formal methods would contribute to the specification, design, development and deployment of service oriented architectures, based on potential or real error risks analysis. This analysis would rely on experience gained through non-formal developments, as well as the reasons why some SSAI FP7 Call1 projects are making explicit use of formal methods or plan to develop a formal framework (project ALIVE for example). “Negative” testimony or feelings (justified or not) explaining why formalities are not welcome in SOA are also expected to contribute to the analysis.



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Formal Methods for SOA and Internet of the Future

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Introduction

This site is dedicated to a Group Discussion entitled Formal Methods for [Service Oriented Architecture](#) and Internet of the Future. It gathers expertise on Internet Technology and Formal Methods from FP7 Call1 projects of Objective 1.2 "Services and Software Architectures, Infrastructure and Engineering". It contributes to the cooperation activities between the projects, aiming at increasing the impact of the ICT initiative.

Figure 1: FM4SOA Working Group wiki

In a second phase, it would be interesting to expose the results of this analysis (that we hope to be positive), to present case-studies including formalities and to explain what is the added-value of

this approach. These case-studies, stored on the DEPLOY repository¹, could be issued from ongoing DEPLOY case-studies/pilots, or could be proposed by external stakeholders. These results could be disseminated through collective workshops and “white papers”.

This FM4SOA Working Group have been initially planned to be a subgroup of the Service Engineering Collaboration Working Group. The purpose was that it contributes to larger, service engineering oriented objectives. Now it is a separate Working Group as it addresses specific thematics.

A wiki² has been set up (see Figure 1: FM4SOA Working Group wiki). It presents the Discussion Group objectives, lists the projects potentially interested in participating to the exchanges. It hosts all contributions from the Working Group members that could be discussions, statements, case-studies, etc. Everyone is invited to register and to contribute to this wiki, which has been updated regularly.

Mailing list. In order to ease the communication among the FM4SOA collaboration Working Group, a dedicated mailing list has been set up. This mailing list is based on JSCLIST facilities, used by DEPLOY for internal and external communication.

Collaboration meeting. DEPLOY has organized, together with the RESERVOIR project, the Internet of Services Collaboration meeting³ in Brussels on October 19-20 2010. Its objective was to raise the impact of the results of individual projects through networking, sharing experiences and participation to collaboration activities. All representatives of FP6 and FP7 projects in the area of Software & Services, Grid and Software and Service Architectures and Infrastructures were invited to participate.

At that occasion, Michael Leuschel (University of Düsseldorf) gave an invited talk entitled “Deploying Formal Methods in Industry: Myths and Successes”, during the opening plenary.

The working group has run a dedicated session on “Formal Methods for Service Oriented Applications”, gathering contributors from FP6 and FP7 projects. The session agenda included presentations on:

- FITTEST project (Tanja Vos)
- ACSI project (Fabiana Fournier)
- CHOREOS project (Hugues Vincent)
- Model based testing for choreographies using formal methods at SAP (Andreas Roth),

¹ <http://deploy-eprints.ecs.soton.ac.uk/>

² reachable at

[http://www.deploy-project.eu/mediawiki/index.php5?title=Formal Methods for SOA and Internet of the Future](http://www.deploy-project.eu/mediawiki/index.php5?title=Formal_Methods_for_SOA_and_Internet_of_the_Future)

³ http://ec.europa.eu/information_society/events/ssai/ios/index_en.htm

presented by Thierry Lecomte

- The Eclipse-based toolset Rodin for formal methods: experiences, potential applications, outlook (Michael Butler)

Book. Following the dedicated event (FMC0 2009) organized at the occasion of the FM'2009 conference held in Eindhoven, and gathering many FP6 and FP7 projects, a book has been issued recently. It collects papers presented during this symposium, targeting the areas of software engineering and formal method, and discussing the concepts of reusability and modifiability in component-based and object-oriented software systems.



Formal Methods for Components and Objects

8th International Symposium, FMC0 2009, Eindhoven, The Netherlands, November 4-6, 2009. Revised Selected Papers

Series: » Lecture Notes in Computer Science, Vol. 6286

Subseries: » Programming and Software Engineering

de Boer, F.S.; Bonsangue, M.M.; Hallestede, S.; Leuschel, M. (Eds.)

1st Edition., 2011, X, 339 p., Softcover

ISBN: 978-3-642-17070-6

2.2 Other collaborations

Being one of its founding members, SAP is participating in the European NESSI initiative aiming at providing a unified outlook for Services Architectures and Software Infrastructures for European research organizations. The work of NESSI is strongly influencing the projects of the European Union's Seventh Framework Program, such as MASTER, RESERVOIR, SLA@SOI, and SOA4All, in which SAP is involved as a partner. SAP is also collaborating with the Modelplex FP6 project on model-based testing techniques involving formal models.

Newcastle is now involved in the new FP7 STREP on Design Support and Tooling for Embedded Control Software (DeSTECS). The DEPLOY and DeSTECS teams in Newcastle work closely together on the topics of fault tolerance modelling.

Finally, CETIC gave a presentation entitled "Comparison of the AADL and Event-B Model-Based Tool Chains for Designing Embedded Systems" during the First Workshop on Hands-on Platforms and tools for model-based, organized ECMFA week in Paris