



---

## SeaClouds Project

### D7.5.1 Collaboration Plan

---

Project Acronym	SeaClouds
Project Title	Seamless adaptive multi-cloud management of service-based applications
Call identifier	FP7-ICT-2012-10
Grant agreement no.	Collaborative Project
Start Date	1 <sup>st</sup> October 2013
Ending Date	31 <sup>st</sup> March 2016
Work Package	WP7, WP on Exploitation and Collaboration
Due Date:	M6
Submission Date:	Date of actual submission – 10 <sup>th</sup> April 2014
Version:	1.0
Status	
Author(s):	Francesco D'Andria (ATOS), Elisabetta Di Nitto (POLIMI), Ivan Febles Trujillo (ATOS), Raffaella Mirandola (POLIMI)
Reviewer(s)	

## Dissemination Level

Project co-funded by the European Commission within the Seventh Framework Programme		
PU	Public	X
PP	Restricted to other programme participants (including the Commission)	
RE	Restricted to a group specified by the consortium (including the Commission)	
CO	Confidential, only for members of the consortium (including the Commission)	

## Table of Contents

Executive Summary .....	5
1. Introduction.....	6
2. Collaboration plan .....	7
2.1 Collaboration goals .....	7
2.2 Collaboration targets .....	8
2.3 Collaboration strategy .....	9
2.4 Initiatives of interest.....	9
2.5 On-going and planned collaboration actions.....	12
2.6 Success criteria.....	12
3. Conclusion .....	13
4. Reference Documents .....	14

**List of tables**

Table 1 On-going projects and initiatives with which SeaClouds intends to collaborate 9

## **Executive Summary**

This document presents the collaboration plan for SeaClouds. In particular, it details the initial plans described in the DoW with concrete data and identifies the initiatives to collaborate with and ways to approach them. Moreover, it also provides a preliminary overview of the initiatives that are currently on-going.

## 1. Introduction

The present document intends to describe the collaboration plans for the SeaClouds project. Collaboration with other initiatives will ensure that the project will be able to produce results that will be complementary and well coordinated with the ones produced by other projects.

This report covers the liaison and cooperation with other ICT projects and is aimed at exploiting the synergies between the projects and increasing the impact of the ICT initiative. This Plan is intended to highlight the key messages, targeted audiences, roles and responsibilities, the channels of communication and success indicators. The current document is therefore a guide for all the partners of the SeaClouds project in their collaboration actions.

This deliverable is structured as follows: In Section 2 we describe our collaboration plan, defining its goal, target, strategy, on-going actions and success criteria and Section 3 concludes the deliverable.

## 2. Collaboration plan

The collaboration activity covers the liaison and co-operation actions with other ICT projects under the same or related EU-ICT objectives. The cooperation aims at exploiting synergies between the projects and increasing the impact of the ICT initiative. The collaboration will also guarantee that the status and achievements of the project will be spread and known by many representative groups that are relevant to the project.

These objectives will be achieved in the following ways:

- Building synergies with other EU projects; above all NoEs and IPs since they involve a large number of partners and address long-term research issues.
- Other collaborations with academic world will be achieved through special meetings and workshops.
- Direct actions to foster collaborations e.g. the training that will attract the key researchers in the field.

The rationale of this plan is to establish the objectives, strategies and methodologies to collaborate with other initiatives either enrolled under FP7 programmes or under national and regional programmes.

The steps that have been followed to design the plan are reflected in the structure of the document:

1. Identification of the SeaClouds goals, targets and of a collaboration strategy
2. Identification of initiatives of interest for SeaClouds
3. On-going and planned collaboration actions
4. Success criteria

### 2.1 Collaboration goals

The mean of collaboration is the sharing of information about the aims, plans and concrete results of the projects that are in collaboration relationship, in order to avoid the overlaps in terms of work. Moreover, the SeaClouds project members should stay informed on the evolution of the other projects, and when possible to provide feedback to them. This activity is related to the knowledge of the state-of-the-art but also to the need to acknowledge the existing results. Also, the value of results of other projects in relationship with the needs and plans of the project should be estimated and, when possible, the take-up of valuable results should be considered.

The overlaps with other initiatives have to be identified as soon as possible through open dialogues between the teams of different projects and consensus has to be reached on the problems to be tackled by each team.

In order to be able to collaborate with other initiatives, SeaClouds should have a clear message concerning its objectives and expected results. The main message is that SeaClouds tackles the problem of deploying and managing, in an efficient and adaptive way, complex multi-services applications over technologically heterogeneous Clouds.

The objectives of SeaClouds are [1]:

- Orchestration, adaptation, and verification of services distributed over different Clouds.
- Monitoring and runtime reconfiguration of services distributed over different Clouds.
- Provision of a unified Cloud-independent mechanism to manage services distributed over different Clouds.
- Alignment of SeaClouds architecture with major standards for cloud interoperability, particularly OASIS CAMP and TOSCA, promoting them in research and industrial communities.

SeaClouds aims to support developers and application managers; for these target groups SeaClouds will provide:

**- In the design phase:**

- A new approach to express how each component of the application should interact with the others.
- A language to specify requirements in terms of SLA and QoS for each component and for the application as a whole.

**- In the deployment phase:**

- Tool for searching among existing Clouds in order to find those that best match the developer's requirements expressed at design time.
- Tools to deploy the application on the selected Clouds.

**- In the runtime phase:**

- Tools to monitor and analyse the performances of each components across different providers.
- Tools to assess whether and which components should be redeployed on different Cloud providers, in case of non-satisfactory performances.
- Tools to redeploy the underperforming components on different Clouds and to adapt the orchestration to the new configuration.

To this end, SeaClouds intends to use and enhance the results of previous projects, from on-going projects, e.g. MODAClouds, REMICS, Cloud4SOA, ARTIST and PaaSage. First contacts with these projects have been already established through the involved partners and with the participation at the pre-FIA workshop organized by SUCRE, ARTIST, CELAR and MODAClouds held on March 2014 in Athens.

A consistent part of the SeaClouds software will be released under an open-source license. The releases can draw the attention of the developer communities who can be involved in providing a feedback on the usefulness and quality of the released software, and who can be involved in long-term cooperation in case of willingness to contribute.

## 2.2 Collaboration targets

Target projects that are of interest for SeaClouds belongs to the following categories:

1. Active projects dealing with Cloud issues that are subscribing to other Objectives of ICT programme.

2. Active projects dealing with Cloud issues that are subscribing to the FP7-Capacities programme.
3. Former projects from ICT programme which results can be reused.
4. Regional, national, private initiatives that can increase the impact of SeaClouds.

### 2.3 Collaboration strategy

The guidelines of the collaboration strategy are listed below:

- Creation of synergies by participation to workshops,
- Contribution to Collaboration Working Groups
- Participation to activities for exchange, dissemination and training
- Co-ordination of standardisation efforts
- Contribution to open source repositories

In these directions, SeaClouds intends to:

1. Participate to the EC initiated conferences, workshops, meetings, info-days related to the Cloud computing topics
2. Participate to the support actions for project dissemination initiated by the projects under same ICT objective
3. Organize scientific meetings and invite other projects to participate
4. Participate to the scientific events organized by other projects
5. Promote standards supported also by other projects
6. Produce open-source to be promoted to other projects
7. Participate in the activities under FIA working groups or other service-oriented groups

### 2.4 Initiatives of interest

The next Table is focusing on the on-going projects and initiatives to collaborate with, as identified to the start of the project. This list will be updated (as new projects and initiatives will be launched, and other will finish their activities).

**Table 1: On-going projects and initiatives with which SeaClouds intends to collaborate**

<b>Project or initiative</b>	<b>Type and Status</b>	<b>Topics for collaboration</b>	<b>Main partner responsible</b>
MODAClouds	On-going IP project, Call 8 FP7-ICT Obj.1.2, started in Autumn 2012, 3 years	<ul style="list-style-type: none"> <li>– Multiple cloud architecture</li> <li>– Language for cloud applications</li> <li>– Cloud monitoring</li> </ul>	POLIMI

Project or initiative	Type and Status	Topics for collaboration	Main partner responsible
		<ul style="list-style-type: none"> <li>– Performance modelling</li> <li>– Organization of common scientific events</li> </ul>	
PaaSage	On-going IP project, Call 8 FP7-ICT Obj.1.2, started in Autumn 2012, 4 years	<ul style="list-style-type: none"> <li>– Language for cloud applications</li> <li>– Organization of common scientific and training events</li> </ul>	POLIMI
ARTIST	On-going IP project, Call 8 FP7-ICT Obj.1.2, started in Autumn 2012, 3 years	<ul style="list-style-type: none"> <li>– Performance modelling and migration</li> <li>– Organization of common scientific events</li> </ul>	ATOS
CELAR	On-going STREP project, Call 8 FP7-ICT Obj.1.2, started in Autumn 2012, 3 years	<ul style="list-style-type: none"> <li>– Cloud monitoring</li> <li>– Model of application elasticity</li> </ul>	POLIMI
SUCRE	On-going SA project, Call 8 FP7-ICT Obj.1.2, started in Autumn 2012, 2 years	<ul style="list-style-type: none"> <li>– Contribute to workshops targeting to disseminate the results of EC projects on Cloud Computing &amp; Open Source</li> </ul>	ATOS
Cloud4SOA	STREP project, Call 5 FP7-ICT Obj.1.2, started in Autumn 2010, 3 years	<ul style="list-style-type: none"> <li>– Portability at PaaS level</li> <li>– Re-use at the run-time environment</li> </ul>	ATOS
OPTIMIS	IP project, Call 5 FP7-ICT Obj.1.2, started in Summer 2010, 3 years	<ul style="list-style-type: none"> <li>– Multi-Cloud architecture</li> <li>– Trust, risk and economics</li> </ul>	ATOS
mOSAIC	STREP project, Call 5 FP7-ICT Obj.1.2, started in Autumn 2010, 30 months	<ul style="list-style-type: none"> <li>– Portability at IaaS level</li> <li>– Re-use at the run-time environment</li> </ul>	POLIMI
4CaaS	IP Project, Call 5 FP7-ICT Obj. 1.2, started in Summer 2010, 3 years	<ul style="list-style-type: none"> <li>– Optimized and elastic hosting of internet- scale applications</li> </ul>	ATOS

<b>Project or initiative</b>	<b>Type and Status</b>	<b>Topics for collaboration</b>	<b>Main partner responsible</b>
CONTRAIL	IP Project, Call 5 FP7-ICT, started in Autumn 2010, 36 months	– Re-use at the run-time environment	INRIA
RESERVOIR	IP Project, FP7-ICT, started in Spring 2008, 36 months	-Relationship between PaaS and IaaS levels	IBM
REMICS	STREP project, FP7-ICT started in Autumn 2010, 3 years	-Reuse and improvement of the migration paradigm	SINTEF
CumuloNimbo	Call 5 FP7-ICT Obj.1.2, started in Autumn 2010, 36 months	– Fully consistent and scalable PaaS	UPM
Cloud-TM	Call 5 FP7-ICT Obj.1.2, started in Summer 2010, 36 months	-Self-optimizing Middleware	INESC-ID
Sofia	Spanish national project	– Development of orchestrators of Cloud services	UMA
NEFFICS	Call 5 FP7-ICT Obj.1.3b, started in Autumn 2010, 36 months	– Resource management	SINTEF
SHAPE	Call 5 FP7-ICT Obj.1.2, started in Winter 2007, 30 months	- Development paradigm minimising the gap between business and system modelling	SINTEF
TOSCA	OASIS standardization group	– Portability and management of cloud applications and services	CloudSoft
CAMP	OASIS standardization group	– Open API for PaaS management	CloudSoft

Project or initiative	Type and Status	Topics for collaboration	Main partner responsible
Services oriented Systems	IFIP WG 2.14/6.12/8.10	– Contribute to the events and documents	POLIMI, UMA, UPI

## 2.5 On-going and planned collaboration actions

Collaboration activities have been already started with the other related FP7 projects. In particular, collaboration meetings have been held with MODAClouds, Artist, and PaaSage already at the end of September 2013, and the project has been invited to be part of the discussion in a FIA workshop organized by Artist, Celar, MODAClouds, and SUCRE. This last supporting action has opened a close collaboration with SeaClouds that has been invited to write an article for the SUCRE magazine. The collaboration with industry is also progressing through the connection with Brooklyn. Finally, the consortium is creating close contacts with TOSCA and CAMP standards and developing its architecture based on the current discussion in these two groups.

## 2.6 Success criteria

We consider the following indicators to be used for measuring the success of the collaboration activities:

**CO1: Number of projects and initiatives in contact with:** at least 3 among projects and initiatives (M18)

**CO2: Number of dissemination events commonly organized:** at least 2 common events (M30)

**CO4: Number of software packages and concepts that are re-used in the project and coming from other projects and initiatives:** at least 2 (M30)

**CO5: Number of working group to which the project members are actively participating:** at least 1 (M18)

These indicators will be used in the periodic report of the dissemination and collaboration activities.

### **3. Conclusion**

The current document has provided an overview of the SeaClouds collaboration plan, including success criteria, and has reported on the current initiatives concerning this aspect. Information related to the on-going initiatives and the accomplishment of the success criteria identified in this deliverable will be provided at the end of each reporting period as part of the progress report deliverables.

#### **4. Reference Documents**

[1] Project Contract - Annex 1 “Description of the Work” (DoW).