

## D7.4b

Version: 1.0

Date: 2010-01-29

Dissemination status: PU

Document reference: D7.4b



# Report of collaboration activities and updates of the collaboration activities plan

Project acronym: COMPAS

Project name: Compliance-driven Models, Languages, and Architectures for Services

Call and Contract: FP7-ICT-2007-1

Grant agreement no.: 215175

Project Duration: 01.02.2008 – 28.02.2011 (36 months)

Co-ordinator: TUV Technische Universitaet Wien (AT)

Partners: CWI Stichting Centrum voor Wiskunde en Informatica (NL)

UCBL Université Claude Bernard Lyon 1 (FR)

USTUTT Universitaet Stuttgart (DE)

TILBURG UNIVERSITY Stichting Katholieke Universiteit Brabant (NL)

UNITN Università degli Studi di Trento (IT)

TARC-PL Telcordia Poland (PL)

THALES Thales Services SAS (FR)

PWC Pricewaterhousecoopers Accountants N.V. (NL)

This project is supported by funding from the Information Society Technologies Programme under the 7th Research Framework Programme of the European Union.





Project no. 215175

**COMPAS**

**Compliance-driven Models, Languages, and Architectures for Services**

Specific Targeted Research Project

Information Society Technologies

Start date of project: 2008-02-01      Duration: 36 months

**D7.4b Report of collaboration activities and  
updates of the collaboration activities plan**

Revision 1.0

Due date of deliverable: 2010-01-31

Actual submission date: 2010-01-29

Organisation name of lead partner for this deliverable:

UNITN University of Trento, IT

Contributing partners:

TUV Vienna University of Technology, AT

THALES Thales Services SAS, FR

USTUTT Universitaet Stuttgart, DE

TILBURG UNIVERSITY, Stichting Katholieke Universiteit Brabant, NL

CWI Stichting Centrum voor Wiskunde en Informatica, NL

<b>Project funded by the European Commission within the Seventh Framework Programme</b>		
<b>Dissemination Level</b>		
<b>PU</b>	Public	X
<b>PP</b>	Restricted to other programme participants (including the Commission Services)	
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

## History chart

Issue	Date	Changed page(s)	Cause of change	Implemented by
0.1	2009-11-09	All sections	New document	UNITN
0.2	2009-12-03	Section 2, Section 3.2	CWI collaboration activities have been added	CWI
0.3	2009-12-16	Section 2, Section 3	Added TILBURG and TUV contributions, described collaboration workshop in Stockholm	TUV, TILBURG, UNITN
0.4	2010-01-07	Section 1, Section 2, Section 4, Section 6	Added USTUTT contribution, several corrections and improvements	USTUTT
0.45	2010-01-11	All sections	Removing partners who wrote their parts from the text, editing USTUTT's contributions, added UCBL contribution and info about joint summer school	UNITN
0.46	2010-01-11	Section 4.2	Added contribution to the work on standardization	TILBURG
0.5	2010-01-15	Section 2, Section 4.1	Added description of NESSI activities	THALES
0.8	2010-01-17	All sections	Formatting, preparing the first final version	UNITN
0.9	2010-01-28	All sections	Responding to review comments and improving writing style	UNITN
1.0	2010-01-29	Whole document	Approve and release	TUV

## Authorisation

No.	Action	Company/Name	Date
1	Prepared	UNITN, TUV, THALES, USTUTT, TILBURG, CWI	2010-01-09
2	Approved	TUV	2010-01-29
3	Released	TUV	2010-01-29

Disclaimer: The information in this document is subject to change without notice. Company or product names mentioned in this document may be trademarks or registered trademarks of their respective companies.

**All rights reserved.**

The document is proprietary of the COMPAS consortium members. No copying or distributing, in any form or by any means, is allowed without the prior written agreement of the owner of the property rights.

This document reflects only the authors' view. The European Community is not liable for any use that may be made of the information contained herein.

## Contents

1. Introduction .....	6
1.1. Purpose and scope.....	6
1.2. Document overview.....	6
1.3. Definitions and glossary.....	6
1.4. Abbreviations and acronyms.....	6
2. Collaboration with other projects.....	7
2.1. Collaboration meetings.....	7
2.2. Organizing conferences and workshops.....	8
2.3. Joint activities for exchange, dissemination and training .....	9
3. SSAI collaboration activities.....	11
3.1. Service Engineering Working Group .....	11
3.1.1. Background.....	11
3.1.2. Status and Future Plan.....	11
3.2. Formal Methods for SOA and Internet of the Future .....	11
4. Other collaboration activities .....	12
4.1. NESSI.....	12
4.2. Standards .....	12
5. Summary and conclusions.....	13
6. Reference documents.....	13
6.1. Internal documents .....	13
6.2. External documents .....	14

## List of figures

Figure 1   NESSI article on COMPAS [NESSI09].....	10
---	----

## Abstract

This deliverable, due at M24 of the COMPAS project, provides an update of the collaboration plan and reports on standardization activities and collaboration with other projects done during the second year of COMPAS.

# 1. Introduction

## 1.1. Purpose and scope

The purpose and scope of this deliverable is to report on the standardization efforts and the progress of collaboration activities between the participants of COMPAS and other projects. This deliverable also updates the plan of collaboration with respect to that defined in [D7.2] and [D7.4a]. The plan is defined in terms of the identification of projects related to COMPAS, the list of events and working groups COMPAS participants might be involved in.

We would like to remind the readers that the public COMPAS Web-Site [D7.1] is employed for announcement of upcoming and ongoing collaboration and dissemination activities. For latest details see <http://www.compas-ict.eu/collaborationNews.php>. The dissemination, exploitation and usage of COMPAS results will be described in [D7.3b].

## 1.2. Document overview

This deliverable is structured as follows: Section 2 describes activities of COMPAS partners in collaboration with other projects, Section 3 reports on the Service and Software Architectures, Infrastructure and Engineering (SSAI) collaboration activities, and Section 4 describes other collaboration activities, including participation in NESSI, and standardization efforts.

## 1.3. Definitions and glossary

The most important terminology concerning the COMPAS project is listed on the public COMPAS Web-Site [D7.1] available at <http://www.compas-ict.eu> section terminology. This helps to make the overall COMPAS approach more comprehensive for the general public.

## 1.4. Abbreviations and acronyms

CASE	Computer-aided software engineering
CWG	Collaboration Working Group
EC	European Commission
ETP	European Technology Platform
FP6	Sixth Framework Programme
FP7	Seventh Framework Programme
FMCO	Formal Methods for Components and Objects
MASTER	Managing assurance, security and trust for services
NESSI	Networked European Software and Services Initiative

NEXOF-RA	NESSI Open Framework - Reference Architecture
S-CUBE	Software Services and Systems Network
SSAI	Service and Software Architectures, Infrastructure and Engineering
WI	Web Intelligence

## 2. Collaboration with other projects

### 2.1. Collaboration meetings

Farhad Arbab (CWI) gave a talk “*Using Reo for Composition of Web Services*” and Natallia Kokash (CWI) gave a talk “*From Compliant Business Process Specifications to Code*” at the Workshop on Formal Methods for SOA and Internet of the Future (FMSSOA) [http://www.formal-methods.de/ifm09/fmsoa\\_workshop.html](http://www.formal-methods.de/ifm09/fmsoa_workshop.html) collocated with the iFM 2009 conference (February 2009, Düsseldorf, Germany). As the group web site reports, the event was very successful, with sessions being attended by 20 to 35 people. Among the participants were EU FP6 CREDO and FP7 DEPLOY and ProTEST projects.

In August 2009, at the SYANCO project meeting in Dresden, Germany, Natallia Kokash (CWI) gave a talk “*Experience with Vereofy Model Checker*”. SYANCO project fosters the collaboration between CWI and University of Dresden, and the talk was devoted to the problems and limitations of the Vereofy model checker developed by the University of Dresden and exploited by CWI in COMPAS. Additionally, CWI is preparing a tutorial on Service-Oriented Systems Development using Eclipse Coordination Tools and mCRL2 for the winter school organized by the SYANCO project that will take place in February 2010, Berlin, Germany (the website of the school is <http://homepages.cwi.nl/~sun/SYANCO/>).

In October 2009, Erik de Vink (University of Eindhoven + CWI, NL) gave a talk “*Model checking Reo with mCRL2*” and Natallia Kokash (CWI) provided a demonstration of the corresponding software tools at the Workshop on Coordination, Coalgebra and Constraints for Service Oriented Overlay Computer (CoCoCo’09), Amsterdam, the Netherlands. The CoCoCo is an annual collaboration event between CWI and University of Pisa, Italy. The talk was devoted to model checking tools integrated with the Reo editor to meet the needs of WP3 on data-aware analysis of formalized process models.

In November 2009, on behalf of COMPAS, Natallia Kokash (CWI) attended the Future Internet Assembly, collocated with ICSOC/ServiceWave conference that took place in Stockholm, Sweden.

In November 2009, Aliaksandr Birukou, Paolo Giorgini (UNITN) and Natallia Kokash (CWI) participated in the collaboration meeting on Model Driven Approach for Complex Service Architectures and Engineering, organized by the MODELPLEX project in Stockholm during the ServiceWave and ICSOC’2009. They presented process verification tools, View-based Modelling Framework and Compliance Governance Dashboards developed in WP3, WP1, and WP5, respectively. At the meeting we defined several possible directions for collaboration between TUV and the Fraunhofer-Gesellschaft (on model repository) and between UCBL and THALES (on security DSL). The collaboration meeting was organized by the MODELPLEX project [http://www.modelplex.org/index.php?option=com\\_content&task=view&id=397&Itemid=245](http://www.modelplex.org/index.php?option=com_content&task=view&id=397&Itemid=245) and was part of the activities of the CWG on the Formal Methods for SOA and Internet of the

Future. The goal of the meeting was the exchange of the results developed within COMPAS, MODELPLEX and DEPLOY projects through the demonstration of tools.

During the reported period, COMPAS as NESSI Strategic Project continued to team with NEXOF-RA and NESSI. More specifically, COMPAS joined the NEXOF-RA events and also investigations teams where architectural patterns proposals were made. It has also joined the NESSI Strategic Project briefing with the EC organized by NESSI ETP and where all NESSI Strategic Projects were presented. COMPAS was represented to this meeting hold in Brussels at European Commission on October 6, 2009 by Thales (Pascal Bisson).

## 2.2. Organizing conferences and workshops

In May 2009, together with S-CUBE, COMPAS organized a workshop on Principles of Engineering Service Oriented Systems (PESOS) 2009: Frank Leymann (USTUTT) and Mike Papazoglou (TILBURG) were in the steering committee, Schahram Dustdar (TUV) was a program co-chair, Fabio Casati (UNITN), Dimka Karastoyanova (USTUTT), Willem-Jan van den Heuvel (TILBURG), and Uwe Zdun (TUV) were in the program committee.

In June 2009, COMPAS, together with other Software and Services FP7 projects organized a The Service and Software Architectures, Infrastructures and Engineering (SSAIE) Summer School. Schahram Dustdar (TUV), Frank Leymann (USTUTT) and Mike Papazoglou (TILBURG) participated in organization of the school.

In September 2009, Vincenzo D'Andrea (UNITN) was in the organizing committee of the International Workshop on Enabling Service Business – <http://esbe.disi.unitn.it>.

CWI organized a COMPAS session at the technical concertation meeting on Formal Methods for Components and Objects (FMCO'09) <http://fmco.liacs.nl/fmco09.html>. The event took place in November 2009 in Eindhoven, The Netherlands, and was collocated with other major events organized by the community of researches and industrial partners interested in formal methods and their applications under the heading of Formal Methods Week (FMweek) <http://www.win.tue.nl/fmweek/>. The session included a talk by Natallia Kokash (CWI, NL) "Model-checking Reo Connectors using mCRL2" and a talk by Amal Elgammal (Tilburg University, NL) "The Formal Specification of Compliance Constraints". The FMCO concertation meeting happened to be one of the most attended events during the FM week, and the COMPAS session was attended by approximately 30 people.

In November 2009, COMPAS participated in organizing ICSOC&ServiceWave-2009: Mohand-Said Hacid (UCBL) was a general chair, Fabio Casati (UNITN) and Mike Papazoglou (TILBURG) were steering committee members, Salima Benbernou (UCBL), Fabio Casati, Vincenzo D'Andrea (UNITN), Schahram Dustdar (TUV), Paolo Giorgini (UNITN), Mohand-Said Hacid (UCBL), Dimka Karastoyanova, Frank Leymann (USTUTT), were in the program committee. Florian Daniel (UNITN) was a PhD symposium chair. Vincenzo D'Andrea (UNITN) was in the demonstration program committee. Mike Papazoglou (TILBURG) and Samir Sebah (UCBL) were in the conference organization team.

TILBURG organized a Round Table Discussion 'SOA State of the Art versus State of Practice' with PWC with the participation by Mike Papazoglou & Willem-Jan van den Heuvel (TILBURG) and P. Nieuwenhuizen & Zouhair Taheri (PWC) and with industrial companies and universities (Accenture, Sundio Group, Tsinghua University, APG, IBM Almaden, NWO, University of Crete, Logica Management Consulting). This meeting took place in Tilburg University on 30<sup>th</sup> of November 2009. One of the objectives was to facilitate

collaboration and to discuss how research results can be commercially and industrially applied. In particular, the graphical compliance language tools, the compliance repository, along with the results of other partners within the COMPAS project can be incorporated to develop a novel CASE tool for managing compliance.

UCBL is planning to organize a workshop affiliated to Web Intelligence (WI) 2010, in Canada, with a few projects partners from [http://cordis.europa.eu/fp7/ict/ssai/projects\\_en.html](http://cordis.europa.eu/fp7/ict/ssai/projects_en.html).

UNITN and TUV are planning to organize a joint COMPAS-MASTER workshop at ICWE 2010, <http://icwe2010.webengineering.org/>, which will take place in Vienna on 5-9 July 2010.

### 2.3. Joint activities for exchange, dissemination and training

COMPAS, SYANCO and NWO GLANCE project WoMaLaPaDiA

[http://www.nwo.nl/nwohome.nsf/pages/NWOA\\_6R7FYJ\\_Eng](http://www.nwo.nl/nwohome.nsf/pages/NWOA_6R7FYJ_Eng) published a paper on verification of data-flow requirements in business process models:

- N. Kokash, C. Krause and E.P. de Vink: Data-Aware Design and Verification of Service Compositions with Reo and mCRL2. ACM Symposium on Applied Computing, 2010.

COMPAS and MASTER (<http://www.master-fp7.eu/>) projects presented a joint paper about dashboards:

- Patrícia Silveira, Carlos Rodríguez, Fabio Casati, Florian Daniel, Vincenzo D'Andrea, Claire Worledge, Zouhair Taheri. "On the Design of Compliance Governance Dashboards for Effective Compliance and Audit Management". Proceedings of NFPSLAM-SOC'09, Springer, Stockholm, Sweden, November, 2009.

Moreover, a joint paper between COMPAS, MASTER and S-Cube (<http://www.s-cube-network.eu/>) projects has been published on how to monitor and enforce compliance during outsourcing by applying cloud computing delivery models:

- T. Anstett, D. Karastoyanova, F. Leymann, R. Mietzner, A. Monakova, D. Schleicher and S. Strauch: MC-Cube: Mastering Customizable Compliance in the Cloud. Proceedings of the 7th International Joint Conference on Service Oriented Computing (ICSOC), Springer, 2009.

Besides the mentioned papers, an additional joint paper between the COMPAS and MASTER projects has been published on outsourcing business processes and their execution in the cloud:

- T. Anstett, F. Leymann, R. Mietzner and S. Strauch: Towards BPEL in the Cloud: Exploiting Different Delivery Models for the Execution of Business Processes. International Workshop on Cloud Services (IWCS2009) in conjunction with the 7th IEEE International Conference on Web Services (ICWS 2009), July, 2009.

Work on reference passing in service-oriented applications has been published by the COMPAS project in collaboration with the DFG project Nexus (<http://www.nexus.uni-stuttgart.de>) and the DFG Cluster of Excellence Simulation Technology (SimTech) (<http://www.simtech.uni-stuttgart.de>):

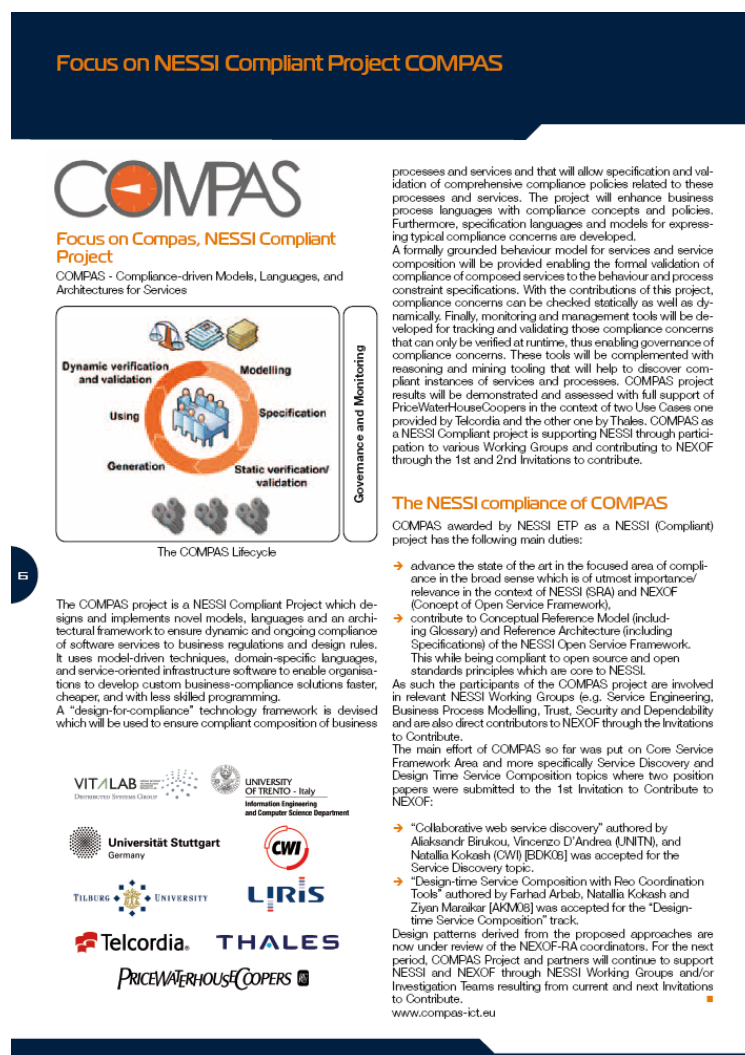
- Wieland, Matthias; Görlach, Katharina; Schumm, David; Leymann, Frank: Towards Reference Passing in Web Service and Workflow-based Applications. In: Proceedings

of the 13th IEEE Enterprise Distributed Object Conference (EDOC 2009), September, 2009.

The European project SUPER (<http://www.ip-super.org/>) and COMPAS have published a work on visualization and modeling of BPEL processes using a standard graphical notation:

- Schumm, David; Karastoyanova, Dimka; Leymann, Frank; Nitzsche, Jörg: On Visualizing and Modelling BPEL with BPMN. In: IEEE Proceedings of the 4th International Workshop on Workflow Management (ICWM2009), April, 2009.

The Networked European Software and Services Initiative (NESSI) has published an article (cf. [NESSI09]) on COMPAS. The article described the main duties and efforts of the project and discusses its anticipated advance of the state of the art in the focused area of compliance (cf. Figure 1).



**Figure 1 NESSI article on COMPAS [NESSI09]**

Concerning dissemination and training as planned and already explained in [D7.3b] the COMPAS research results of University of Stuttgart have successfully been used during the summer term 2009. Concretely, the lecture Workflow Management II has been held during

summer term 2009 including the topics “Compliance of flows” and “Flows as Compliance rules”. This will be continued in future lectures and other teaching activities arranged by the Institute of Architecture of Application Systems (IAAS).

### **3. SSAI collaboration activities**

#### **3.1. Service Engineering Working Group**

##### **3.1.1. Background**

The European Commission, DG Information Society, SSAI Unit organised a two day event on 4-5 March 2008. The objective of the event was to prepare the Work Programme 2009-10 and to launch the FP7 projects (concertation meeting). As a result of the concertation meeting, initial SSAI Collaboration Working Groups (CWGs) have been set up.

Amongst these CWGs is the “Service Engineering” group, which is coordinated by Schahram Dustdar (the coordinator of the NESSI project COMPAS and participant in S-CUBE). The objective of the CWG is to enable the creation of a research agenda and plan for the area of Service Engineering. The participating partners in this service engineering CWG consist of a number of EU projects involved in service engineering research.

Previous Meetings related to the Service Engineering CWG:

- 29<sup>th</sup> August 2008 – Vienna - Initial kickoff meeting service engineering CWG meeting [D7.4a]
- 22-23 September 2009 – Brussels – Discussion on structure, topics and planned contributions.

##### **3.1.2. Status and Future Plan**

Initial drafts of the case study chapter, that is considered the common chapter for all participating partners, were circulated in July 2009, followed by a revised version September 2009. The case study describes a scenario involving mobile phone services portability and shall act as the basis for (project) partner specific chapters. Drafts of the partner specific chapters were planned for the December 2009, to be reviewed February 2010 and resubmitted March 2010.

#### **3.2. Formal Methods for SOA and Internet of the Future**

The CWG on Formal Methods for SOA and Internet of the Future was active in 2009 and organized several major collaboration events promoting the use of formal methods for the SOA analysis, among which are iFM FMSOA Workshop in Düsseldorf and the MODELPLEX Collaboration Workshop in Stockholm described in Section 2. The final goal of the CWG partners stated at the MODELPLEX meeting is to work towards the preparation of a project proposal targeted at the elaboration of the Model-Driven Development techniques for Service-Oriented Systems.

## 4. Other collaboration activities

### 4.1. NESSI

COMPAS is classified as a NESSI Compliant Project, so it plays a key role in the overall elaboration of NEXOF.

In autumn 2009, COMPAS shared a new version of terminology and conceptual model with NEXOF, thereby contributing to establishing references in NEXOF-RA glossary.

The Trusted Timestamping Solution developed in COMPAS and described in Section 2.2 of [D6.3] is re-used in the NEXOF-RA project and led to an architectural pattern (<http://www.nexof-ra.eu/?q=node/558>, specification available at [http://www.nexof-ra.eu/sites/default/files/Trusted Timestamping Pattern V1.2.4.pdf](http://www.nexof-ra.eu/sites/default/files/Trusted_Timestamping_Pattern_V1.2.4.pdf)) which is now part of the collection of patterns for Enterprise SOA (<http://www.nexof-ra.eu/?q=node/526>). In the NEXOF-RA, the Timestamping Service provides an interface to add a timestamp to a message. The timestamp is apposed by a timestamping server that is related to a clock service. The message is concatenated with the current time and the result is signed by the timestamping server. Stamp verifying service performs the time stamp verification by authenticating the Timestamping server and retrieving the clock of the timestamp.

Thales represented COMPAS at NEXOF-RA meetings (Pascal Bisson).

Thales has been promoting COMPAS and COMPAS results (e.g., D1.1 and DA.1) in the context of NESSI and NEXOF (NEXOF-RA, <http://www.nexof-ra.eu/?q=taxonomy/term/190>). As such, COMPAS was invited to join NESSI and NEXOF events and also actively contributes to them (we mentioned some of the events in Section 2).

COMPAS was invited to attend NESSI Strategic Project Meeting with the EC to illustrate participation of a NESSI Compliant Project to NESSI and NEXOF.

COMPAS was invited by NESSI ETP to attend the two day NESSI event on 12th and 13th of April (co-located with the EU / Spanish presidency week, FIA, ICT Directors meeting etc) in Valencia co-located to R2S conference (<http://www.r2sconference.eu/>). COMPAS will join there the first NESSI Projects symposium organized by the ETP.

### 4.2. Standards

USTUTT participated, as the COMPAS responsible partner for standardisation activities, in the meeting of the Standardisation Working Group at the Internet of Services 2009 Collaboration Meeting for FP6 & FP7 projects. The meeting took place on 11<sup>th</sup> of June 2009 in Brussels ([http://ec.europa.eu/information\\_society/events/cf/ios09/](http://ec.europa.eu/information_society/events/cf/ios09/)). The objective of the session of the standardisation working group was to bring together the representatives of all FP6 & FP7 that are heading for or already participating in standardisation activities. All projects, especially projects that contribute to the Networked European Software and Services Initiative (NESSI), were invited to present their standardisation activities and work on a common strategy. Thus, USTUTT presented the planned COMPAS standardisation activities by giving a presentation focusing mainly on using process fragments for augmenting business processes with compliance.

In the following we would like to define and explain the currently planned standardisation activities as well as the ongoing work on standardisation within the COMPAS project.

USTUTT, as responsible partner for standardization, is in close contact with all other project partners to identify and recognize the possibility for standardization of certain COMPAS results as soon as possible. This does not cover the standardization process itself, but the collection and creation of specifications regarding COMPAS results with the purpose of pointing out possible standardization to be picked up by feasible standardization bodies. The standardization of certain COMPAS results may have a significant impact on the application and employment of the COMPAS approach in industry.

Therefore, we have planned to write two concrete specifications within COMPAS. USTUTT is currently working on a specification for proposing possible standardisation in the field of process fragments. Further information and the current state of this ongoing work will be reported during the COMPAS review after the second year of the project duration. The content of the specification will be mainly based on the deliverable named “BPEL extensions for compliant services” [D4.2], which specifies extensions to the BPEL [OASIS07] language in order to enable the augmentation of business processes with compliance.

The COMPAS partner TILBURG UNIVERSITY is responsible for the second specification proposing possible standardisation material. The content of the specification will be on the Compliance Request Language used for the formal specification of compliance requirements stemming from legislative and regulatory bodies, standards and code of practice, business contracts, and internal/external policies. The specification will be based on the constructs and operators initially defined in [D2.2] and extended in [D2.3].

## 5. Summary and conclusions

This deliverable reports on the collaboration activities done in the second year of the COMPAS project and provides an updated collaboration plan with other projects and in the SSAI and NESSI activities. It also provides a work plan on standardization activities.

The report of the collaboration activities for the third year of the COMPAS project will be delivered at M36, according to [DoW].

## 6. Reference documents

### 6.1. Internal documents

- [DoW] “Description of Work”, version 9 of 2008-10-10
- [D2.2] “Initial Specification of Compliance Language Constructs and Operators”. Available at [http://www.compas-ict.eu/compas\\_results/deliverables/m11/D2.2\\_Initial-specification-of-compliance-language-constructs-and-operators.pdf](http://www.compas-ict.eu/compas_results/deliverables/m11/D2.2_Initial-specification-of-compliance-language-constructs-and-operators.pdf)
- [D2.3] “Design of Compliance Language Run-time Environment and Architecture” Will be available at <http://www.compas-ict.eu/results.php>
- [D4.2] “BPEL extensions for compliant services”, Version 1.0 of 2009-12-31. Will be available at <http://www.compas-ict.eu/results.php>
- [D6.3] Case study execution and assessment report, Version 1.0 of 2009-12-31
- [D7.1] “Public Web-Site”, <http://www.compas-ict.eu>

- [D7.2] “Collaboration activities plan”. Available at [http://www.compas-ict.eu/compas\\_results/deliverables/m06/D7.2\\_Collaboration-Activities-Plan.pdf](http://www.compas-ict.eu/compas_results/deliverables/m06/D7.2_Collaboration-Activities-Plan.pdf)
- [D7.3b] “Plan for the use and dissemination of foreground and Technology Implementation and Business Plan (TIBP)”, Version 1.0 of 2010-01-30.
- [D7.4a] “Report of collaboration activities and updates of the collaboration activities plan”, M12. Available at [http://www.compas-ict.eu/compas\\_results/deliverables/m12/D7.4\\_Report-of-collaboration-activities-and-updates-of-collaboration-activities-plan.pdf](http://www.compas-ict.eu/compas_results/deliverables/m12/D7.4_Report-of-collaboration-activities-and-updates-of-collaboration-activities-plan.pdf)

## 6.2. External documents

- [NESSI09] NESSI NEWSLETTER no.12, May 2009, <http://www.nessi-europe.com/Nessi/Portals/0/Nessi-Repository/Publications/Newsletters/nessi-newsletter-12-v5-web.pdf>
- [OASIS07] A. Alves, A. Arkin, S. Askary, C. Barreto, B. Bloch, F. Curbera, M. Ford, Y. Goland, A. Guízar, N. Kartha, C.K. Liu, R. Khalaf, D. König, M. Marin, V. Mehta, S. Thatte, D. van der Rijn, P. Yendluri, and A. Yiu: Web Services Business Process Execution Language Version 2.0. OASIS Comitee Specification, April 2007, <http://docs.oasis-open.org/wsbpel/2.0/wsbpel-v2.0.pdf>