Deliverable D300.1.1

Planning and Progress Reports

WP 300

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The FIspace Project

Leveraging on outcomes of two complementary Phase 1 use case projects (FInest & SmartAgriFood), the aim of FIspace is to demonstrate fundamental changes in how collaborative business networks will work in future. FIspace will develop a multi-domain Business Collaboration Space (short: FIspace) that employs FI technologies for enabling seamless collaboration in open, cross-organizational business networks, establish eight working Experimentation Sites in Europe where Pilot Applications are tested in Early Trials for the Agri-Food and Transport & Logistics domains and prepare for industrial uptake by engaging with players and associations from relevant industry sectors and the IT industry.

Project Summary

As a use case project in Phase 2 of the FI PPP, FIspace aims at developing and validating novel Future-Internet-enabled solutions to address the pressing challenges arising in collaborative business networks, focusing on use cases from the Agri-Food and Transport and Logistics industries. FIspace will focus on exploiting, incorporating and validating the Generic Enablers provided by the FI PPP Core Platform with the aim of realising an extensible collaboration service for business networks together with a set of innovative test applications that allow for radical improvements in how networked businesses can work in the future. These solutions will be demonstrated and tested through early trials at experimentation sites across Europe. The project results will be open to the FI PPP program and the general public, and the pro-active engagement of larger user communities and external solution providers will foster innovation and industrial uptake planned for Phase 3 of the FI PPP.

Project Consortium

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Dissemination Level

PU	Public	**X**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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000	Creation of the document	30.09.2013
001	Initial version ready	28.10.2013
002	Update after review by Rod Franklin	30.10.2013

Document Summary

This is the first activity report for FIspace WP300. In this report we summarize the work that was done in developing the FIspace Experimentation Environment (EE). This report covers the initial phase of the work, the development of the EE platform and the establishment of our working procedures. At this point we have a working first version of the EE that will be augmented and maintained as we move on with the FIspace project. We report on the meetings that were conducted (Teleconferences and face-to-face), and the deliverables that were produced. We also provide details on the activities in each one the tasks and their respective subtasks. All together we have produced four deliverables during this reporting period.

Abbreviations

AC	Administrative Coordinator
App	Software Application
BCM	Business Collaboration Module
BCO	Business Collaboration Object
CEP	Complex Event Processing
CSB	Cloud Service Bus
CSE	Chief Software Engineer
D	Deliverable
DEM	Dissemination and exploitation manager
DPC	Deputy Project Coordinator
DoW	Description of Work
EB	Executive Board
EC	European Commission
EPM	Event Processing Module
e.g.	Exempli gratia = for example
EU	European Union
ETP	European Technology Platform
FIA	Future Internet Assembly
FI PPP	Future Internet Public Private Partnership
FP7	Framework Programme 7
GA	Grant Agreement
GE	Generic Enabler
GM	General Meeting
GPF	Grant Preparation Forms
ICT	Information and Communication Technology
i.e.	id est = that is to say
IP	Intellectual Property
IPR	Intellectual Property Rights
IPC	IP Committee
KPI	Key Performance Indicator
M	Month
MS	Milestone
PAB	FIspace Project Advisory Board
PC	Project Coordinator
PMG	Project Management Group
PO	Project Officer
REA	Research Executive Agency
RTD	Research and Technological Development
SC	Steering Committee
SME	Small and Medium Sized Enterprise
ST	Sub-Task
T	Task
TA	Technical Architects
WG	Working Group
WP	Work Package
WPMT	Work Package Management Teams

Table of Contents

1 Introduction 5

2 Content and Purpose 5

3 Work package Objectives for the Period 5

4 Progress towards objectives 6

5 Significant results 9

1 Introduction

Work Package 300's overarching goal is to enable the realization of the use cases defined in WP400 and to allow for large scale trials in phase 3 of the project. In the first six months, the period covered by this report, the partners focused on setting up the basic platform that will be used for deploying the planned services developed in Work Package 200. Overall, the contributions of the partners to the activities within WP300 are in line with their planned contributions and activities. With minor deviations, the use of resources by the WP partners within the first half year is also in line with the planned efforts. These deviations did not affect the activities and outcomes within the WP.

2 Content and Purpose

This is the first activity report for FIspace WP300. In this report we summarize the work that was done in developing the FIspace Experimentation Environment (EE). This period covers the initial phase of the work, the development of the EE platform and the establishment of our working procedures. At this point we have a working first version of the EE that will be augmented and maintained as we move on with the FIspace project. We report on the meetings that were conducted (Teleconferences and face to face), and the deliverables that were produced. All together we have produced four deliverables:

1. D300.2 - covers the decisions that were made on the architecture, hardware, software and working procedures during operations.
2. D300.8 – covers the testing environment
3. D300.3 – The first working version of the FIspace EE
4. D300.1.1 – This activity report.

3 Work package Objectives for the Period

The FIspace Experimentation Environment facilitates the experimentation and testing of the use cases defined in WP400 (use cases) deployed on the FIspace platform developed in WP200. To that end we developed in this reporting period the basic cloud infrastructure for the EE based on software from FI-Ware. This basic Infrastructure as a Service (IaaS) will be used to deploy the software deliverables of Work Package 200 and FI-Ware GEs to provide the experimentation and testing of the use cases defined in WP400. The aim is to use physical sites as well as real time data and simulation in cases where real-time data and/or physical sites cannot be tested. The EE will provide "labs services" for domain/business users to carry out the specified scenarios defined in the scope of WP400.

During the reporting period, the focus of WP300 was on installing the basic FIspace (FI-Ware based) hosting environment in preparation for the deployment of WP200 services and more of the FI-Ware GEs. More specifically, the following objectives (as stated in the DoW) have been pursued:

- **Task 310 Hosting and experimentation coordination (Lead: IBM).** The aim of this task is to efficiently address the technical coordination of the Work Package. In addition, the objective is to be a single point of contact to all the other Work Packages to coordinate their requirements and usage of the platform.
- **Task 320 Cloud hosting (Lead: KOCSISTEM)**. Cloud hosting and support, and preparation for phase 3. The task involves planning, designing, implementing, testing and managing a cloud infrastructure (IaaS) to host FIspace. This task was the main focus of WP300 in the first 6 months.
- **Task 330 Core Platform GE integration and deployment (Lead: KOCSISTEM).** This task is concerned with the assessment, deployment, and openness validation of GEs exploited by the FIspace project. We started compiling the GE requirements from the various stakeholders during this period. GE requirements will be further refined as the FIspace project progresses.
- **Task 340 Experimentation set-up and execution (Lead: IBM). The** FIspace EE's ultimate goal is to provide the facilities to run the tests defined in the scope of WP400 (use cases). This task is

concerned with the actual execution set-up and support of the use case trials (test scenarios). The focus of this task in the first 6 months was facilitating the design of experiments.

- **Task 350 Experimentation facilities (Lead: KOCSISTEM)**. This task is concerned with the scaffolding and interfaces that are needed in order to have an environment that simulates the actual real life environment. Under this task we started the scaffolding design process.

The first reporting period involves all tasks of Work Package 300. In the following text, the progress made towards reaching the objectives of this Work Package is described, also presenting the significant results that have been achieved.

4 Progress towards objectives

Task 310 Hosting & experimentation coordination (M1 – M24)

Status: on-going

Summary of work done

In order to coordinate the work within this work package we held regular phone meetings to discuss progress and raise any issues that came up. We also conducted two Work Package 300 face-to-face meetings:

- Brussels 21-05-2013
- Istanbul, 09-09-2013, before the plenary meeting.

To coordinate with the rest of the project, we have participated in regular development meetings of WP200. We supported Work Package 500 tasks that required our input and established procedures for collecting requirements from the Work Package 400 use cases. We also participated in the regular project management meetings to present and discuss WP300 status and alignment with the rest of the project.

Externally, we have established communications with Xi-Fi and with several FI-Ware GE owners, as well as the FI-Ware IaaS platform. During the first 6 months period we had four deliverables. Three of them are report and one is the first version of the FIspace hosting environment (IaaS).

Significant/major results

- Established communication with FI-Ware and in particular Xi-Fi
- Delivered D300.2: Plan for hosting environment + GE integration (Month 3), on time
- Delivered D300.3 System and support for V1 (Month 6), on time
- Delivered D300.8 EE architecture and development plan + scenarios execution plan (Month 6), on time
- Deliverable D300.1.1 WP300 Month 6 Activity Report (Month 6), on time

Task 310 has three subtasks:

- **ST311 Coordination of technical activities**
  - **Lead: IBM, Participants: KOCSISTEM**
    - Held regular biweekly meetings by phone. Agenda and minutes are published.
    - Called for two F2F meetings (Brussels and Istanbul)
    - Used open e-mail communication
    - Represent WP300 in the PMG
- **ST312 Coordination of all activities with other WPs**
  - **Lead: IBM, Participants: KOCSISTEM**
    - Provided input to other work packages and discussed their requirements.
    - Established work procedures for installing GEs and other software, obtaining login credentials, etc.
    - Participated in Architects meetings
    - Served as a single point of contact for WP 300 activities.

- **ST313 Coordination of all activities with Core platform**
  - **Lead: IBM, Participants: KOCSISTEM**
  - Established communication with XiFi and FI-WARE
  - FI-WARE openstack software is installed on our system
  - Kept a close watch on the required GEs and their leads

Deviations (if any) and mitigation actions

Not all GEs have been delivered on time or as promised. We are evaluating the situation on a case by case basis. We will insist on installing one version of a GE (and not several) in order to get consistent results.

Task 320
Cloud hosting
(M1 – M24)

Status:
on-going

Summary of work done

We worked on the architecture of the FIspace EE and adopted the Open Stack based IaaS recommended by FI-Ware (Xi-Fi). We established relations with Xi-Fi and deployed the cloud which is now ready for our developers (FIspace WP200 and WP400).

Significant/major results

- Established communication with FI-Ware and in particular Xi-Fi
- Delivered D300.2: Plan for hosting environment + GE integration (Month 3), on time
- Delivered D300.3 System and support for V1 (Month 6), on time

Task 320 is further divided into three subtasks:

- **ST321: Architecture design and requirements of the cloud hosting environment**
  - **Lead: KOCSISTEM, Participants: IBM**
  - Provided an architecture document for the hosting environment: D300.2
- **ST322: Building and testing the cloud hosting environment**
  - **Lead: KOCSISTEM, Participants: IBM**
  - Developed the first version of the hosting environment: D300.3
- **ST323: Support and maintenance of the cloud hosting environment**
  - **Lead: KOCSISTEM, Participants: IBM**
  - Established working procedures to regulate the development work on the hosting platform.

Deviations (if any) and mitigation actions

Nothing reported.

Task 330
FIWARE GE integration & deployment
(M1 – M24)

Status:
on-going

Summary of work done

Requirements for using GEs and other software are being collected in an orderly way. We are assessing the status of the GEs and experimenting with them. We also made sure to define the boundaries of responsibilities between WP 300 and the users of the platform: WP 200 and WP 400. We will deploy only GEs that are fully validated by the developers.

Significant/major results

- Established communication with FI-Ware and in particular Xi-Fi
- Delivered D300.2: Plan for hosting environment + GE integration (Month 3), on time

This task has three subtasks:

- **ST331: Identification and prioritization of exploited GEs**
  - **Lead: KOCSISTEM, Participants: UDE, IBM, ATOS, NKUA**
  - We have established procedures for documenting the GE usage
  - We defined the work that WP300 will do to support the GE deployment
  - This is documented in D300.2
- **ST 332: Installation/configuration and support of exploited GEs**
  - **Lead: KOCSISTEM, Participants: UDE, IBM, ATOS, NKUA**
  - At this stage we are ready to deploy selected GEs on our hosting environment.
- **ST333: Assessment of exploited GEs**
  - **Lead: UDE, Participants: KOCSISTEM, IBM, ATOS, NKUA**
  - A study and evaluation of GEs is underway.

Deviations (if any) and mitigation actions

We are still validating the GEs that are to be used. In cases where it is clear that the appropriate GE will not be available on time for FIspace, alternatives are being evaluated. This is done on a case-by-case basis. Thus, for example, Task 220 is considering both the WireCloud GE and Java FX as a basis for the GUI.

Task 340 Experimentation set-up and execution (M1 – M24)

Status: on-going

Summary of work done

Building on the deliverables of the two preceding projects, Finest and SmartAgriFood, we have designed the experimental setup and validation process. This is documented in deliverable D300.8. We adopted a scenario based approach in order to make sure that we are covering all the required setups.

Significant/major results

- Delivered D300.8 EE architecture and development plan + scenarios execution plan (Month 6), on time

Task 340 has three subtasks:

- **ST341: Experiment design and configuration**
  - **Lead: IBM, Participants: ATB, UDE, ATOS, KOCSISTEM , TOG, NKUA, UPM**
  - The work is documented in D300.8
- **ST342: Experiment execution and analysis**
  - **Lead: IBM, Participants: ATB, UDE, ATOS, KOCSISTEM , TOG, NKUA, UPM**
  - We started looking into this during the work on D300.8 that will serve us as a guide for setting the experiments.
- **ST343: Experiment knowledge sharing**
  - **Lead: IBM, Participants: ATB, UDE, ATOS, KOCSISTEM, TOG, NKUA, UPM**
  - This will start after we manage to run some experiments.

Deviations (if any) and mitigation actions

None reported.

Task 350 Experimentation facilities (M1 – M21)

Status: on-going

Summary of work done

Since our platform will not work initially in a real-life setup, there is a need to build the scaffolding that will provide an environment that is as close as possible to a real-life setup. Hence we need to simulate operations, for example the input from in-field sensors. This will be done with data collected from actual sensors that will be streamed into the platform as if these were transmitted from actual sensors. Since we are running an experiment we might run the data at a faster pace in order to conveniently run multiple experiments. We started the design of this scaffolding and identified the required simulation and other software that are needed to run the experiments.

Significant/major results

- Initial identification of what scaffolding is needed and what should be built to support the experiment.

Task 350 has three subtasks

- **ST351: FIspace test**
  - **Lead: KOCSISTEM, Participants: ATB, UDE, NKUA, UPM, M&A, LimeTri**
  - Ongoing work.
- **ST352: Experiment environment core**
  - **Lead: NKUA, Participants: ATB, UDE, KOC, UPM, M&A, LimeTri**
  - Ongoing work.
- **ST353: Experiment environment front-end**
  - **Lead: UPM, Participants: ATB, UDE, KOCSISTEM, NKUA, M&A, LimeTri**
  - Ongoing work.

Deviations (if any) and mitigation actions

None reported.

5 Significant results

- Established communication with FI-Ware and in particular Xi-Fi
- Delivered D300.2: Plan for hosting environment + GE integration (Month 3), on time
- Delivered D300.3 System and support for V1 (Month 6), on time
- Delivered D300.8 EE architecture and development plan + scenarios execution plan (Month 6), on time
- Deliverable D300.1.1 WP300 Month 6 Activity Report (Month 6), on time


FIspace
Business Collaboration