D-A.5
Exploitation and Dissemination Plan

Document Properties:

Document Number:	FP7-ICT-2009-5-257448-SAIL/D-A.5
Document Title:	D-A.5: Exploitation and Dissemination Plan
Document responsible:	Luis M. Correia (IST-TUL)
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Target Dissemination Level:	PU
Status of the Document:	Final
Version	1.2

Production Properties:

Reviewed by:	Holger Karl (University of Paderborn), Michael Soellner (ALU)

Revision History:

Revision	Date	Issued by	Description
1.0	2010-11-04	Luis M. Correia	First edition.
1.1	2010-11-21	Luis M. Correia	Corrections to first edition, after review.
1.2	2011-01-11	Annica Ellergren	Completed IPR process. Changed security class.

Abstract:

This document provides the detailed plan for dissemination and exploitation activities of the project. Special emphasis is given to SAIL-organised dissemination events, i.e., Workshop, Summer School, etc. Furthermore, besides the usual dissemination activities, the project uses social networks as a visibility means as well.

Keywords:

Dissemination. Workshops. Summer School. Conferences. Social Networks. Exploitation.

Table of Contents

Executive Summary

SAIL will provide essential contributions to the Network of the Future Objective of EU FP7, in the medium- and long-term perspectives. Dissemination actions from SAIL aim at communicating project results to a wide audience, fostering the adoption of project results and its impact, facilitating the exchange of information and the interaction not only with other projects but also with activities in industry, academia, and society as a whole. Furthermore, project results should be brought to training and education activities as well. SAIL dissemination activities include "classical" items, (e.g., website, inter-project concertation, scientific publications, workshops and training activities), but also go a step further by using new ways of spreading information (e.g., blogs, social networks, and information upload to websites). SAIL has planned a wide and effective dissemination of results as one of the strong components of the project and as one of the overall goals to be achieved.

In parallel to dissemination, exploitation of results plays a major role, namely for the major industrial partners, as this has a stronger industrial impact towards product development and standardisation. Exploitation activities of the SAIL consortium will take several forms in order to best fit the research results and the exploitation opportunity.

The purpose of the present document is to present the exploitation and dissemination perspectives in detail, listing the planned activities. This listing is a first approach to the problem, i.e., it is natural that during the development of the project, some of this information may change. Still, all goals will remain valid, and the consortium as a whole will be in charge of implementing them.

Concerning dissemination activities, the following are planned, and presented in detail: Public Website, Press Release, Leaflet, Newsletter, Papers in Conferences and Journals, Participation in Target Events, SAIL Workshops, Demonstration Event, SAIL Training School, Interaction with other Projects and Fora, Web2.0 Activities.

Exploitation activities are also addressed in detail, being structured along several dimensions, i.e.: the actor (i.e., industrial and academic), the type (technical improvements or strategic guidelines), and the audience (internally to the consortium and or externally to a wider community). Furthermore, specific plans for each partner are also presented.

The exploitation and dissemination in SAIL, involving all partners, includes a number of activities, targeting, in general, the area of Networks of the Future and Future Internet. The coordination of all these activities is performed within WP-A "ICE – Impact & Collaboration Enabling", more specifically by T-A.3 "Dissemination".

1   Introduction

SAIL will provide essential contributions to the Network of the Future Objective of EU FP7 [ECFP2010], in the medium- and long-term perspectives. Dissemination actions from SAIL aim at communicating project results to a wide audience, fostering the adoption of project results and its impact, facilitating the exchange of information and the interaction not only with other projects but also with activities in industry, academia, and society as a whole. Furthermore, project results should be brought to training and education activities as well. SAIL dissemination activities includes the "classical" items, (e.g., website, inter-project concertation, scientific publications, workshops and training activities), but goes a step further, by using new ways of information spread (e.g., blogs, social networks, and information upload). SAIL has planned a wide and effective dissemination of results as one of the strong components of the project, and as one of the overall goals to be achieved [SDoW2010].

In parallel to dissemination, exploitation of results plays a major role, namely for the major industrial partners, as this has a stronger industrial impact towards product development and standardisation. Exploitation activities of the SAIL consortium will take several forms in order to best fit the research results and the exploitation opportunity, which will be structured along several dimensions, i.e.: the actor (i.e., industrial and academic), the type (technical improvements or strategic guidelines), and the audience (internally to the consortium and or externally to a wider community). Again, initial ideas have been presented in [SDoW2010].

The exploitation and dissemination in SAIL, involving all partners, includes a number of activities, targeting, in general, the area of Networks of the Future and Future Internet. The coordination of all these activities is performed within WP-A "ICE – Impact & Collaboration Enabling", more specifically by T-A.3 "Dissemination".

The purpose of the present document is to present the exploitation and dissemination plans in detail, listing the foreseen activities. The Project Coordinator function is responsible that the activity will be lead within the consortium. This listing is a first approach to the problem, i.e., it is natural that during the development of the project, some of this information may change. Still, all goals will remain valid, and the consortium as a whole will be in charge of implementing them.

This report is structured into 2 other chapters, besides the final one on conclusions: Chapter 2 presents the dissemination aspects, while Chapter 3 addresses the exploitation perspectives.

2   Dissemination Actions

In this chapter, one presents the dissemination activities that are planned for SAIL. They range from the pure technical ones, like presentation of papers in conferences and journals, to social networks, like a LinkedIn SAIL group and a blog. In the next sections, all planned activities are described in detail.

2.1   Public Website

A public website is available at www.sail-project.eu, to be used as the main vehicle of dissemination and interaction with the public who seeks information about the SAIL Project and its areas of work.

The website is structured into some main pages, showing the key items to be presented, and that are somehow self-explanatory, Figure 2-1: *About SAIL*, *Partners*, *Press Releases*, *Publications*, *Deliverables*, *Blog*, *News*, and *Contact*. The first one is further divided into some other items (which, again, are self-explanatory), enabling an easy presentation on the project: *Objectives*, *Description*, *Structure*, and *Q&A*.

Besides giving information on the project, the website will also be used as the main vehicle to make available all the public deliverables, as well as other public reports that the project may decide to produce.

The blog, discussed in Section 2.11, is part of the website. However, while the main website is positioned as an official channel containing information with the project as the responsible source/authorship, the blog is a more informal one, where any individual from the project will post in their own name and responsibility, not necessarily reflecting the position of the project as a whole.

2.2   Press Release

A Press Release, prepared by a group of partners within the consortium, has been launched by the Project Leader by the kick-off date, Figure 2-2. This Press Release was also translated and launched by several partners in other countries, e.g., Germany, France, Spain and Portugal.
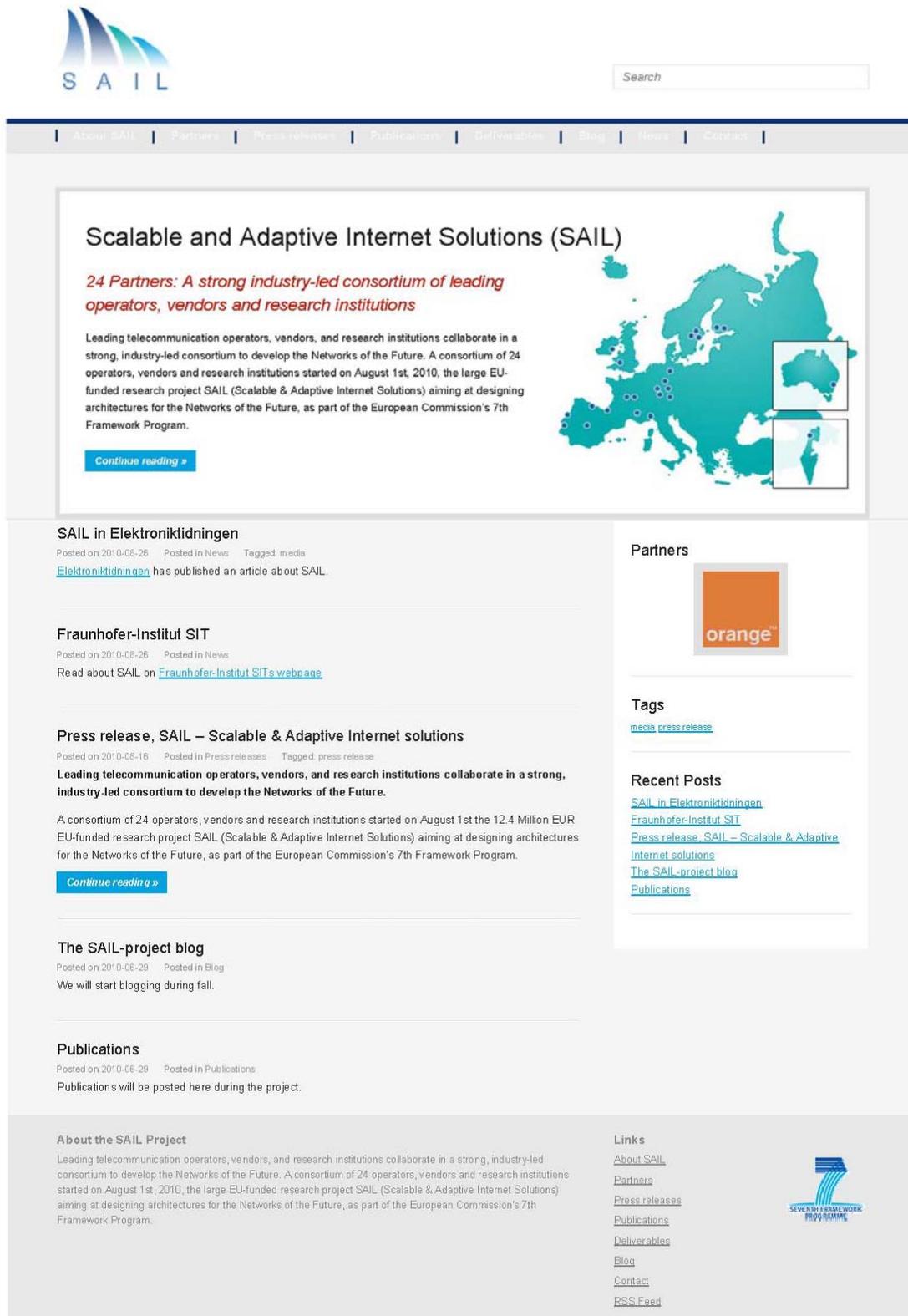
With this Press Release, the project has done a first step to its visibility, towards not only the ICT community in particular but also the society in general.

Further press releases may be issued, accompanying major public achievements of the project, like public workshops and demonstration events.

2.3   Leaflet

A public leaflet describing the SAIL project is under preparation (in terms of contents and design), and it will be published soon. This leaflet will be used for the presentation of the project in main events (conferences, workshops, fairs, and so on), at both the European and world levels.

The leaflet is being structured in a way that it shows the project's main global information, with an overview on: structure, goals, results, and partners. It will also include some representative pictures, as well as the contacts for further information.

Figure 2-1 – Printout of SAIL's Website (Home Page).

Stockholm, Sweden, August 12th, 2010

PRESS RELEASE

SAIL – Scalable & Adaptive Internet solutions

Leading telecommunication operators, vendors, and research institutions collaborate in a strong, industry-led consortium to develop the Networks of the Future.

A consortium of 24 operators, vendors and research institutions started on August 1st the 12.4 Million EUR EU-funded research project SAIL (Scalable & Adaptive Internet Solutions) aiming at designing architectures for the Networks of the Future, as part of the European Commission's 7th Framework Program.

The industry-driven SAIL consortium integrates a wide range of complementary. Besides Ericsson, the project coordinator, the consortium includes companies and institutions from 9 European countries plus Israel and Australia: Alcatel-Lucent, Nokia Siemens Networks, NEC, Hewlett-Packard, France Telecom, Telefonica, Telecom Italia, Portugal Telecom Inovacao, DOCOMO, Robotiker, SICS, IST – Technical Univ. of Lisbon, Univ. of Paderborn, Aalto Univ., KTH – Royal Institute of Technology, Fraunhofer SIT, Univ. of Bremen, Institut Telecom, Technion, INRIA, Trinity College Dublin, Univ. of Cantabria, and NICTA.

SAIL will both design technologies for the Networks of the Future and develop techniques to transition from today's networks to such future concepts. SAIL leverages state-of-the-art architectures and technologies, extends them as needed, and integrates them. SAIL uses experimentally-driven research, building prototypes that will proof the advantages in concrete use cases.

SAIL will integrate the concepts of Network of Information, Cloud Networking, and Open Connectivity Services. To realise a Network of Information, mechanisms and protocols will be developed that handle heavy information retrieval workloads more efficiently than today's networks, and are easier to use for application programmers and network operators alike. Cloud Networking will integrate cloud computing deeply into networks, for efficient network operations and service awareness, and bringing its advantages as close to the customer as possible. With Open Connectivity Services, transport and routing services can be controlled and orchestrated over various technologies, ranging from fibre backbones to wireless access networks.

SAIL will also address cross-cutting technical themes, such as security and network migration, together with non-technical issues, such as socio-economics, including the outcome of new markets, business roles and models, thus, increasing opportunities for both competition and cooperation. Standardisation aspects will be considered as a major concern to the consortium, and will be complemented through the broad dissemination of project results.

Thomas Edwall, Project Manager from Ericsson, says: "SAIL is an important tool to ensure broad acceptance within the industry, and enhance the possibilities for standardisation of solutions fostering the Networks of the Future. Furthermore, the innovations in SAIL will allow the European industry to stay ahead in ICT development, fostering the creation of skilled jobs in ICT."

The SAIL project has 30 months duration, lasting until December 2012. The kick-off meeting is taking place in Stockholm.

Project Website: http://www.sail-project.eu

Contacts:
Project Leader: Thomas Edwall, Ericsson
E-mail: info@sail-project.eu
Phone: +46 10 719 6310

Figure 2-2: Press Release.

2.4 Newsletter

A regular SAIL Newsletter is planned, to be issued quarterly, presenting the project's progress to the "outside world". It will contain several sections: *Editorial*, *Under the Spotlight*, *Inside SAIL*, *Looking Outside*, and *What's Next*. The *Editorial* is produced by the Project Management; *Under the Spotlight* presents in more detail the activities of a given WP (on a rotating basis); *Inside SAIL* gives a short progress report on the main developments of each WP, as well as of the Themes; *Looking Outside* intends to approach activities occurring outside the project, that are in its area of work; finally, *What's Next* brings a record of future incoming events (also in the area of the project). The design of the Newsletter is currently being finalised, after which a first number will be issued.

The Newsletter will be distributed electronically, by email, internally to the project, and to all those that show an interest in it (the website will also collect this information), and also on paper, together with the Leaflet, at major events.

2.5 Publication of Papers in Conferences and Journals

Conferences and journals are an important way to disseminate scientific knowledge, and SAIL will also follow this approach, by publishing its results. All SAIL partners are planning on presenting papers to several conferences and journals. Given the lifespan of the project, it is likely that results will first be published in conferences, and then, later on, in journals, presenting a more complete description of models and results.

Several editions of a given conference are targeted, and it may (will) happen that particular events not foreseen at the moment may be addressed as well. The major conferences being targeted are (only the incoming editions are listed) shown in Table 2-1. An update of this list will be performed throughout the duration of the project, and it will be put into the wiki tool used within the project.

The major journals being targeted are:
* ACM SIGCOMM Computer Communication Review
* Communications & Strategies Journal
* Computer Networks Journal
* Economic Traffic Management Journal
* EURASIP Journal on Wireless Communications and Networking
* IEEE Transactions on Mobile Networking
* ICST Transactions on Information-centric Networking
* IEEE Transactions on Network and Service Management
* IEEE/ACM Transactions on Networking
* Journal of Network and Systems Management
* Review of Network Economics Journal
* Telecommunications Policy Journal

2.6 Participation in Target Events

SAIL is targeting major events in the area of Networks of the Future and of Future Internet, not only in the research and development area, but also in the industrial one, and later on encompassing a standardisation approach as well. The identification of these events is done via a watch dog perspective of what is being organised.

Furthermore, special attention is given to events organised by the European Commission, at various levels, where the project will also play an active role, e.g.:
* Concertation Meetings,
* Future Network & Mobile Summits,
* Future Internet Assemblies (FIA).

Table 2-1: Targeted Conferences.

Acronym	Conference	Date	Location
NV	ITG/VDE Workshop on Challenges and Solutions for Network Virtualisation	2011, Mar. 10 – 11	Kiel, Germany
EuroCPR	European Communications Policy Research Conference	2011, Mar. 27 – 29	Ghent, Belgium
WCNC	IEEE Wireless Communications & Networking Conference	2011, Mar. 28 – 31	Cancun, Mexico
GI	Global Internet Symposium	2011, Apr. 10 – 15	Shanghai, China
INFOCOM	IEEE International Conference on Computer Communications	2011, Apr. 10 – 15	Shanghai, China
TRIDENTCOM	ICST International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities	2011. Apr. 17 – 19	Shanghai, China
MOBILIGHT	ICST International Conference on Mobile Lightweight Wireless Systems	2011, May 09 – 11	Bilbao, Spain
VTC	IEEE Vehicular Technology Conference	2011, May14 – 17	Budapest, Hungary
FUTURENET	International Workshop on the Network of the Future	2011, Jun. 05 – 09	Kyoto, Japan
ICC	IEEE International Conference on Communications	2011, Jun. 05 – 09	Kyoto, Japan
CTTE	Conference of Telecommunication, Media and Internet Techno-Economics	2011, Jun.	
FN&MS	EC Future Network & Mobile Summit	2011, Jun. 15 – 17	Warsaw, Poland
IWCMC	International Wireless Communications & Mobile Computing Conference	2011, Jul. 08 – 11	Istanbul, Turkey
ADHOC-NOW	International Conference on Ad Hoc Networks and Wireless	2011, Jul. 18 – 20	Paderborn, Germany
VTC	IEEE Vehicular Technology Conference	2011, Sep.05 – 08	San Francisco, CA, USA
PIMRC	IEEE International Symposium on Personal, Indoor and Mobile Radio Communications	2011, Sep. 11 – 14	Toronto, Canada
MONAMI	ICST International Conference on Mobile Networks and Management	2011, Sep. 20	Santander, Spain
ETM	Workshop on Economic Traffic Management	2011, Sep.	
ESORICS	European Symposium on Research in Computer Security	2011, Sep.	
CCS	ACM Conference on Computer and Communications Security	2011, Oct.	
WMNC	IFIP Wireless Mobile Networking Conference	2011, Oct.	
GLOBECOM	IEEE Global Communications Conference	2011, Dec. 05 – 09	Houston, TX, USA
SIGCOMM	ACM Special Interest Group on Data Communication Conference	2011, Dec.	
REARCH	Workshop on Re-Architecting the Internet	2011, Dec.	
CoNEXT	ACM International Conference on Emerging Networking Experiments and Technologies	2011, Dec.	
NOMS	IEEE/IFIP Network Operations and Management Symposium	2012, Apr. 16 – 20	Maui, HI, USA

2.7   SAIL Workshops

A yearly workshop is planned to be organised by SAIL, i.e., 2 editions will take place. This workshop is based on demonstration and presentation of project results, and all information concerning the workshop will later on be made available at the project website.

These workshops will possibly be co-located with a major event, in order to maximise exposure and attendance. One of the possibilities under analysis is to co-locate with the Future Network & Mobile Summits. Table 2.2 presents an overview of the description of the workshops.

Table 2-2: Workshops Overview.

Title	SAIL Workshop
Date	*To be defined, aimed at June 2011 and June 2012.*
Duration	One Day
Location	*To be defined*
Chair of Organising Committee	Thomas Edwall
Chair of Technical Committee	Annikki Welin
Structure of event	• Single track event. • Keynote talk. • Papers from project members. • Panel discussion.
Topics to be dealt with	All major topics dealt with by the project will be addressed.
Targeted audience	Researchers (academic and industrial), Ph.D. students, Engineers from Operators, Vendors and Research Centres
Scheduled plan (for 2011 edition)	• 2010 Dec. – Definition of event for co-location of workshop, and contact with event organiser. • 2011 Jan. – Definition of Invited Speaker. • 2011 Mar. – Definition of Project speakers • 2011 Apr. – Finalisation of Programme.

2.8   Demonstration Event

SAIL includes the demonstration and prototyping of some of the technologies developed within the project. Towards the end of the project, when the prototypes and the demonstration associated devices and programs will be ready, a public show of the technology will be done.

The date and location of this event is still to be defined, but its co-location with an industrial event is being considered, as it will maximise project visibility.

2.9   SAIL Training School

A Training School is planned to be organised by SAIL by the end of the project, around June 2012. One of the SAIL academic partners will be organising this School, in its premises. The school will be based on project results, for the transfer of knowledge to both industry and academia, but a number of speakers external to the project will be included as well, in order to provide a broader view of the area, hence, creating added value to the participants.

Table 2.3 presents an overview of the description of the Training School.

Table 2-3: Training School Overview.

Title	SAIL Summer School on Networks of the Future
Date	June 2012
Duration	3-5 days
Location	*To be defined.*
Chair of Organising Committee	*To be defined.*
Chair of Technical Committee	*To be defined.*
Structure of event	• 3h talk each speaker • Presentation of posters by participating Ph.D. students • Invited speakers, external to the project • Speakers from within the project. • Single track event
Topics to be dealt with	All major topics dealt with by the project will be addressed.
Targeted audience	Graduate students. Researchers from industry and academia.
Scheduled plan	• 2011 Oct. – Preparation of programme. • 2011 Dec. – Preliminary announcement. • 2012 Jan. – Finalisation of Programme • 2012 Feb. – Final announcement. • 2012 May – Registration opens.
Potential external lecturers	High quality speakers from Europe and other regions (e.g., USA and Japan) are foreseen.

2.10 Interaction with other Projects and Fora

Dissemination from SAIL will also actively seek links and interaction with other projects and fora, in the area of Networks of the Future and Future Internet. The goal is not only the exchange of information, but also the creation of any possible synergies on the development of the technical work.

This activity will be held in the European Frameworks, where the previously mention target events will be a key vehicle for these links, targeting other European projects and fora, namely IPs, STREPs, NoEs, SSAs, and CAs of ICT FP7, and European Technology Platforms (ETPs), namely eMobility, NEM and NESSI. But, the project will also address other regions, namely in North America and Asia Pacific:
- GENI and FIND in USA,
- AKARI and JGN2+ in Japan,
- CNGI+ in China,
- FIF of Korea.

Active interaction and meeting participation in international bodies is also foreseen, e.g., IETF (Internet Engineering Task Force), and IRFT (Internet Research Task Force), among others.

2.11 Web2.0 Activities

In addition to the dissemination efforts listed above, SAIL will also address the dissemination task from a Web 2.0 viewpoint. The meaning of Web 2.0 is wide, but in this scope, SAIL uses the term as a synonym to Social Media (http://en.wikipedia.org/wiki/Social_media).

The main purpose of using various Social Media channels in the dissemination effort is to increase reach and visibility of the activities and results from SAIL. In most cases, the Social

Media engagement and activities will have a stand-alone value, but they will also strive to direct the audience to the more traditional channels listed above (e.g., refer to the formal web-site for details, or highlight various publications and conferences where SAIL is present). The activity in Social Media channels shall also strive to enable and facilitate a two-way conversation with the audience, and as such with an audience broader than the one engaged in the more traditional dissemination activities listed above.

As Social Media to a large extent is described as a conversational channel, it is implied that the whole SAIL project, to as large extent as possible, shall take active part in conversations.

To some extent, the Social Media channels to be used will be subject to a small-step trial-and-evaluation approach. It is not fully decided which channels existing today are the most suitable ones for the SAIL message, and furthermore, new channels will evolve as SAIL runs. However, a few channels are identified as (potential) starting points, which are listed below.

- Blog

  SAIL has launched a blog, hosted at the main sail-project.eu web site.

  The blog is positioned to be a more informal channel, with posts mainly written by individuals in the project. The posts are normally positioned as the viewpoint of the individual, and not as the viewpoint of the project or of a project partner, when the author belongs to SAIL.

- Conversational Social Media Channels

  A number of Social Media channels that are more suitable for a conversational context are being identified, which include LinkedIn groups, Facebook fan pages and Twitter.

  To which extent the SAIL project will engage in these or other conversational channels will be subject to evaluation during the project. LinkedIn groups are so far identified as the 1st target, due to both SAIL project members current LinkedIn presence, and the more business/professional context of LinkedIn.

- Media Focused Social Media Channels

  The SAIL project will strive to create screencasts related to as many published papers and other presentations as possible. These screencasts (video format), other media (like presentation slides and images) and other videos, will be stored and published on established "web 2.0" services, which include Youtube, Slideshare and various photo sharing sites.

  In most cases, the media will be referenced or embedded in other relevant channels (i.e., in a blog post), and the usage of an "established 'web 2.0' service" will also serve as a potential additional entry point for people searching for such material.

- Other channels, tools and considerations

  In order to feed the blog site and potential conversational channels with a flow of entries, the SAIL project will establish a project-internal process for sharing and collecting references to relevant items on the web (mainly project-external entries). This flow shall be condensed into one or more RSS-feeds, which can in turn be fed into the existing channels.

  In all cases, the SAIL project will keep statistics on the usage, reach and engagement in the channels deployed. This will secure an understanding of the actual value, as well as on which activities and posts spur the most interaction and reach.

  One should note that no material published by the SAIL project in these channels shall breach any copyright or be of confidential nature.

3 Exploitation of Results

In this chapter, the exploitation plans are presented. A general approach is given in the beginning, by grouping partners by sector, and then the specific perspectives of each partner are shown.

3.1 General Approach

Exploitation activities of the SAIL consortium will take several forms to best fit the research results and the exploitation opportunity, being structured along several dimensions:

- The exploitation actor will influence the type and target audience of an exploitation activity, distinction being done between industrial and academic actors for exploitation.
- The exploitation type depends on the achieved research result and on the time horizon of the exploitation activity, some activities using direct technical improvements and usually having a relatively direct impact within a short time frame, while others leverage research results with a long-term impact on the networking community to derive strategic guidelines.
- The exploitation target audience can be internally to members of the consortium and their own operation, or externally to a wider community, e.g., on standardisation.

In different combinations of these dimensions, the weight of SAIL's exploitation activities differs, but is present everywhere. The exploitation structure is summarised in Figure 3-1, being used in the following description. This structure notwithstanding will enable synergies and joint potential between these exploitation opportunities during the project.

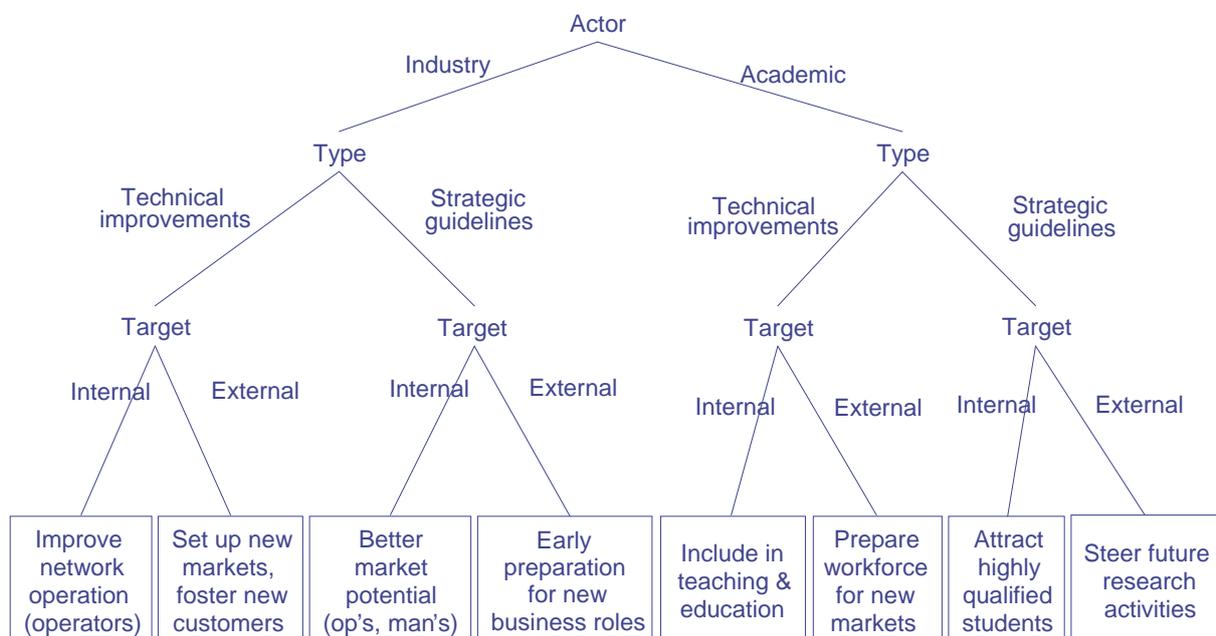Figure 3-1: Structure of exploitation activities.

SAIL's industrial partners (i.e., operators, manufacturers, and SMEs) are focusing their exploitation activities on improving their current operation and business position in existing markets, and on the creation of and preparation for new markets, with the intention to secure a strong leadership position in these new markets. To this end, standardisation is an

important means, which is not addressed in this report, but plays a role in other project documents, e.g., [DeA42012].

Industrial partners exploit direct technical improvements internally. A manufacturer uses the acquired know-how to shorten turn-around times from the project results to products – for example, in the virtualisation context – to reduce time to market and improve its business position or to outperform competitors through the quality of immediately forthcoming new products; additionally, they can introduce a range of next generation network infrastructure and mobile and multimedia applications faster than their competitors. Operators and SMEs can speed up the deployment of new network technologies and new services and applications, resulting in new usage scenarios and new customers. Companies will ensure this by transferring results from the research departments directly to development, products, marketing, and maintenance ones.

Industrial partners can also exploit direct technical improvements externally. The prime objective here is to create new products and services for already existing or currently incipient markets. Participation in SAIL and the resulting acquired experience and expertise will provide an essential time-to-market advantage over competitors. SAIL partners will be better prepared for new markets, products, and services and can position themselves early on. They can also work towards the creation of new customer relationships by creating a community around their new offerings. Such direct transfer into new products might be particularly appealing for the SME partners who can, e.g., rapidly exploit services appearing around the Network of Information development. These exploitation goals are achieved by educating the customers and business relations of the industrial partners about the new technical possibilities and by developing attractive offerings. SAIL intends to provide its results to forthcoming test-bed projects, in order to ensure an early adoption of our approaches within the networking research community, as a solid foundation for future European and world-wide research. The right of a partner to decide to protect some of its results before any kind of dissemination of such result, and the mostly open source based dissemination of other results, will be a strong support for the industrial partners' external exploitation.

The exploitation of strategic guidelines by industrial partners is perhaps even more important, allowing an advance preparation for new business models and business roles, and being a key strategic opportunity for the longer-term development of their telecom business beyond Third Generation systems, both in Europe and globally. For example, the roles of operators will change dramatically in the long run when virtualisation technologies find widespread acceptance, therefore, operators in SAIL will be well-prepared to exploit these opportunities (e.g., by becoming providers of both infrastructure and architecture solutions, combining operation and design expertise); an ill-prepared operator, outside SAIL, will likely find itself challenged by such a disruptive change of business models. It will also become possible for our partners to start up dedicated companies for such new business models. In addition, training for sales personnel, field engineers, etc., can be started early, thus, bringing an advantage over the competition. Overall, being aware of future strategic developments allows SAIL's partners to embrace new usage scenarios and to prepare technical solutions, rather than being overwhelmed by them, therefore, lead to new business opportunities for them in the long run. All of this will be achieved by informing key personnel in the companies of the relevant strategic results, ranging from board members, e.g., Chief Technology Officers (CTOs) to product and marketing divisions. The manufacturers within the consortium will be aware of the operators' adapted and new business models, thus, being well positioned for serving this new demand in a market that is not only shifted but also enlarged. Products based on technologies developed on SAIL's results will meet a market demand, provided they offer superior performance and economy; when adopted by existing market players, they will interoperate with established technologies.

Notwithstanding, industry-driven exploitation of strategic guidelines is perhaps the most important exploitation aspect of this project. It will shape the forthcoming technological landscape by making SAIL's results a core ingredient of future networking systems. It will

result in consortium members being best positioned in these forthcoming markets, but it will also, overall, ensure that European companies and markets continue to play a leading role worldwide. In line of these exploitation activities, SAIL industrial partners will use strategic results to create new markets and business opportunities, foster new customer relationships, and create new, competition-friendly, highly efficient, unbundled technological structures. For example, in a virtualised networking environment, new business roles will appear, offering opportunities for providing customised, yet interoperable networking architectures, which is simply not possible today. These goals will be achieved by making sure that core SAIL results are included in future standards.

The exploitation goals of academic partners (i.e., universities and research institutes) are different, yet complementary, to those of industrial partners. Technical developments will be integrated quickly into the teaching curricula and research agendas of SAIL's partners, giving themselves as well as their graduates a competitive edge, compared to other universities, namely those in the US. Academic partners will also make sure that these developments are carried into future national and international research projects, deeply rooting SAIL's results in R&D activities. By publishing high-quality papers from SAIL's results, academic partners will obtain improved international visibility and improve their position in attracting the best international Ph.D., M.Sc. and graduate level students to their institutions. In order to spread SAIL's approaches widely among the academic and engineering networking community, academic partners will also exploit the project results to organise tutorial-style and research seminar-style into training schools of high academic standing.

The academic exploitation of strategic guidelines, naturally, has a longer time horizon. The future research agenda will be prepared based on the results achieved by SAIL, and new problems that have to be solved will be identified, in order to strengthen the SAIL impact even more. Academic partners will also be tasked with preparing the workforce for the future technological landscape, both for direct work in industry and for research; this development will be particularly important for SMEs who are often not themselves able to train personnel in these new networking technologies. The long run result of the efforts of the academic partners will be to place the approaches developed in SAIL in the mainstream of teaching in networking and communications systems.

3.2   Partners' Perspectives

EAB

Ericsson is the world leader provider of telecommunication equipment to mobile and fixed network operators globally. As such, Ericsson wants to explore the technical and business aspects of deployment of cloud computing in the operators networks. The broad portfolio of the company leaves many possibilities for actual implementation of SAIL developed solutions on real products. The incremental approach for the development of research in SAIL will facilitate the delivery of concrete results to different units within the company. Ericsson may integrate the solutions developed in SAIL in its products if proved valuable to Ericsson's customers. The SAIL consortium includes many operators that will be able to validate the solutions being developed. The solutions will be likely to impact fixed access and mobile core network equipments, amongst others.

Ericsson intends to perform standardisation of key results whenever deemed suitable. Some of the standardisation forums that are currently investigating cloud computing issues include IETF, Cloud Security Alliance, Open Grid Forum, Open Cloud Consortium, amongst others.

ALUD

Alcatel-Lucent as one of the leading supplier of network and services solutions worldwide has a vital interest on developing and driving innovative future networks and end-to-end solutions that enable compelling communications services for people at home, at work and on the move as well as for new emerging service providers. Alcatel-Lucent's contributions to SAIL focus on the innovations and advances of open connectivity services (OConS), leveraging the experience and capabilities of a global network infrastructure manufacturer. Therefore, Alcatel-Lucent is committed to coordinate and drive the proof-of-concepts work in SAIL by prototyping and demonstrations and taking project responsibility both for the theme "experimentation and prototyping" as well as the task on evaluation and prototyping in WP-C "Open Connectivity Services". These activities will help to exploit anticipated research results in SAIL, bring them to standardisation, and implement a migration path from today's network to the future network's services and infrastructure equipment.

NSN

Nokia Siemens Networks envision a many-fold increase in traffic over the world's networks in the next coming years. Multimedia content will be the main diver of soaring traffic amounts, both in fixed and mobile networks. The traffic amounts will reach unseen levels, requiring new investment in capacity, as well as upgrades to new technology, such as LTE. Yet, the increased traffic will not bring correspondingly higher revenues and, combined with the increased investment needed, will put great pressure on communication ecosystem. In order to ensure sustainability of the networking ecosystem NSN is particularly interested in concretisation of the architectures and concepts drafted and experimented in the preceding FP7 projects, namely 4WARD's NetInf architecture and PSIRP's rendezvous subsystem, that both promise substantial scalability benefits with controlled and manageable OPEX costs. This means that OPEX will grow significantly lower than the number of subscribers or traffic volumes.

Information centric networking with its innovative approach of handling and accessing data, by use of in-network storage, collaborative caching and traffic off-loading together with all optical transport system will form the practical basis of the future mega media distribution system. NSN will develop, evaluate and prototype concepts and tools based on NetInf as part of existing and future network architectures with the emphasis on evolvability from current networks. Specifically, NSN sees that the information centric approach of SAIL project paves the way to tighter integration of CDN-like functionality with the underlying network infrastructure. Information centric approach is radically different from the current application overlay approach of the CDN that are effectively dedicated application silos. Naturally this has significant implications to socio-economics of the whole delivery chain. Even seemingly small changes in the incentive structure, as likely resulting from an information centric architecture, may lead to game-changing effects in the global network business landscape. Therefore, NSN will elaborate the current and future mobile and Internet business models with the focus on their success factors and limitations and identify the potential required regulatory actions. Also, the analysis of the potential charging models in a key concept of the project will be carried out.

Engaging with worldwide community on this early stage of transition is the key to establish a global acceptance of the developed technologies. NSN is actively contributing relevant project results to related working groups of IETF and IRTF, namely DECADE and PPSP working groups. After the architectural components are established in the IETF and the overall architectural validation has proved stability and solid performance gains NSN is willing to bring the results further to 3GPP and ETSI. Naturally, NSN is participating to publishing the project results in the central industrial and academic conferences and fairs.

NEC

NEC is leading WP-B (NetInf) and sees NetInf as a promising approach to enhance its current product offerings in mobile and fixed telecommunication both in terms of functionality and cost. More specifically, the Network of Information work will enable efficient novel content-oriented telco service offerings. One of the major challenges for building the next-generation mobile communication network will be to address the expected massive increase in capacity demand for applications, such as mobile video. NEC intends to leverage the SAIL results with respect to generalising Content-Distribution-Network concepts, leveraging in-network-storage and intelligent distribution mechanisms in order to meet these demands.

Furthermore, NEC being equipment (IT and Network), solution and managed services supplier expects the cloud networking research in WP-D (CloNe) to play a vital role for creating the next generation cloud infrastructure, where computing and networking resources can be managed in a consistent way. Specifically, NEC expects SAIL to accelerate global standardisation efforts in that area, which will contribute to creating a viable global market for cloud services.

For both Information-Centric Networking and Cloud Networking, NEC is committed to use the results of the project to define NEC's standards strategy of upcoming Future Network standards.

FT Orange

FT-Orange will exploit the results coming from NetInf to analyse various scenarios regarding the potential introduction of new content delivery mechanisms in the networks, and consider its impact on network design and operations. FT-Orange will also capitalise on the NetInf outcome in relation to business impact, as (new) business models might arise. Participation to ICT events will also be considered as a way to contribute to the Future Internet activities. Likewise, FT might follow the rise of standardisation activities regarding new mechanisms on content delivery and dissemination.

FT-Orange will exploit the results coming from OConS to improve its fixed and mobile networks, by optimising network infrastructure and reducing the operational costs. FT-Orange will also capitalise on the OConS findings in relation to business aspects, such as benefiting from the issued guidelines and the proposed (new) business models. Likewise, FT-Orange will follow and contribute to the IETF on the standardisation of distributed and dynamic mobility management protocols.

FT-Orange will analyse the results coming from CloNe to complement its current findings in network virtualisation and dynamic network resource allocation.

TID

TID contributes to OConS and CloNe and leads the Interprovider Theme. All current analysts coincide that virtualisation is one of the pillars of the Network in the near future. TID will use the results of the CloNe activity to help the Telefónica Group define new products and services as well as to correctly extrapolate vendor information as to what virtualisation models are going to prevail in the future. The SAIL activities include monitoring, participating and potentially attending the VNRG meetings at IETFs.

Regarding OConS, TID is very interested in contributing to their definition and demonstration. One of the major trends announced by several vendors is the return to unicast communications, as users tend to consume personalised contents (what I want, when I want, where I want, and with the device I want) and TID wants to explore if OConS can help controlling and hopefully reverting this trend in order to optimise network resource usage.

TI

Telecom Italia, being a network operator and a service provider, is particularly interested in bringing innovation into the network, to increase the value of its services and reduce the overall network infrastructure and operational costs. The research addressed by SAIL will, when successful, have a significant impact on the above goals. The Network of Information research and experimentation will allow one to investigate this paradigm. It can be practically exploited to evolve the network and provide new information-centric services to the users.

SAIL's mobile network architecture innovations, like Dynamic Mobility Management, will enable operators to preserve their investments, helping them to distribute traffic coming from mobile applications on network nodes in a smarter and more efficient way than today. This is particularly important also in face of the foreseen dramatic growth of mobile data and of new devices, like machine-type devices, which bring very low ARPU to operators, if not correctly optimised in the network. Moreover, results achieved in SAIL will be exploited by Telecom Italia in the standardisation process, leveraging in particular the industrial strength of the consortium.

On the socio-economic side, Telecom Italia will take advantage from investigating new business models enabled by SAIL innovations and from studying innovative business synergies and agreements between Operators and other players that will give the Operator also the opportunity to contribute to the overall societal welfare. SAIL will also give Telecom Italia the knowledge of regulatory issues possibly impacted by new technologies and of mutual impacts between security and privacy issues.

PTIN

PTI is the R&D arm of the Portugal Telecom group; transferring knowledge to other PT companies is one of the key objectives of PTI's activity. SAIL project results, particularly those coming from the Cloud Networking WP, will be internally disseminated and SAIL prototypes will be demonstrated to PT business and operational departments. In particular, Cloud Networking technologies developed in SAIL are expected to open up new capabilities and extend PT's virtual private networking service portfolio, by exploring the combination of network virtualisation and cloud computing.

SICS

SICS mission includes "actively promoting industrial use of new research ideas and results in industry and society at large". Importance is attached to adapting and making use of the results in the particular environment and scenarios of SICS's industrial and other collaboration partners.

In SAIL, the above is done with two means. The first is to contribute to the prototype development in collaboration with the partners. The second is to contribute to the early standardisation, in particular for NetInf technology.

Additionally, SICS has a well developed collaboration pattern with small and mid-sized enterprises in Sweden, carrying out joint projects, and acting as an external R&D resource. SICS has also a proven record of disseminating and promoting industrial deployment of its research findings, including establishing of spin-off companies, as well as licensing of its software and patents.

SICS will develop and evaluate approaches for fault management in overlay networks and business goal translation in network management. One will investigate autonomous detection and localisation of faults and anomalies spanning across multiple virtual layers. Furthermore, one will investigate automated translation of high-level business goals into enforceable operational policies for virtualised network resources. The work in network management will

be exploited partly by incorporating results into architecture and prototyping, and partly by dissemination of scientific results in relevant conferences.

IST

IST has a good record of participating in projects within European frameworks for many years, with significant gains not only in terms of visibility but also concerning the improvement of processes and procedures related with both teaching and research activities; this is a clear result of the continuous exploitation that has been performed from the participation in these projects. Much of the experience and results obtained in projects is being put into teaching, not only in graduate courses, but also, and more important, into the students' theses. This participation contributes to increase IST's scientific reputation and competitiveness at the national and international levels, attracting students and enabling better links with industry. IST will take advantage of its participation in eMobility to ensuring a proper exploitation. The strategy of IST is twofold: participation enables both the staff and the students to improve their knowledge on the specific area of Mobile and Wireless Communications, whilst the training acquired by students is an effective way to process transfer technology to industry. Furthermore, it develops the student's knowledge in a very competitive area, which in turn leads to enhanced career opportunities for them. Not of least importance, the staff of IST working in the project will get improved experience of working in teams, at the international level, as well as being exposed to project management techniques, which is also of value not only for the staff itself, but also valuable knowledge to be passed onto to students in an Engineering school.

UPB

UPB is planning to exploit the SAIL results in several ways.

First, one plans to generate patents based on the developed results. One will also use the state-of-the-art experience and know how to teach the next generation of engineers and computer scientists.

Furthermore, one will use the acquired know how and experience to improve UPB's competitive position in the landscape of academia to improve the attractiveness for students and highly skilled staff members.

AALTO

AALTO (Aalto University) will contribute to the socio-economic task within WP-A by analysing and evaluating the business aspects of the technical architectures designed in other WPs. AALTO will exploit the results of this work for the purposes of teaching and further research in other projects. Especially AALTO plans to coordinate between SAIL and the Finnish national programme on Future Internet (Tivit/FI). The public results of Tivit/FI will be exploited in SAIL and vice versa. The educational exploitation will focus on AALTO's international masters programme on Communications Ecosystem and national masters programme on Network Economics.

KTH

KTH will contribute mainly to WP-D. One anticipates that results will be achieved in the area of cloud networking and management, as well as in prototyping of WP-D concepts. KTH will team up with SAIL industrial partners and study possibilities for exploiting WP-D results.

Fraunhofer

The Fraunhofer Institute for Secure Information Technology (Fraunhofer) is a specialist in IT-security. Institutes of the Fraunhofer-Gesellschaft promote and undertake applied research in an international context, of direct utility to private and public enterprise and of wide benefit to society as a whole. Fraunhofer is experienced with all technologies and topics that are relevant for IT-security and security by IT. The contribution in SAIL enables Fraunhofer SIT to strengthen its competences in security related questions in future internet scenarios.

UHB

The University of Bremen will use the results obtained in SAIL for education of Bachelor, Master and PhD students and will further explore and utilise results in future research projects. Particular focus will be put on joint projects with industry, transferring expertise, novel ideas and concepts obtained in SAIL for key applications areas. In teaching, exciting and interesting areas for Bachelor, Master and PhD theses will be selected in SAIL topics and concepts, experiences from SAIL will be used to make the courses more lively and interesting.

HPLB

HP contributes to WP-D, Cloud Networking. HP manufactures computing, storage, and network systems. One views the trend to virtualisation as essential to provide the operational flexibility and automated management that our customers require as they provide ever more sophisticated services to their customers. Integrating the wide area network management with data centre management is one of the key pieces of the virtualised infrastructure offering which can be deployed at large scale in data centres or distributed within the wide area network itself. HP will use the results of CloNe activity to further help us explore tighter integration of wide area network and data centre virtualisation in our products and services, and to explore new models for offering distributed virtualised infrastructure services to our customers.

ROBOTIKER-TECNALIA

Tecnalia-RBTK works with clients related to the wellbeing and ageing area, offering solutions to improve daily life for elderly and handicapped people. Monitoring the environment where these people live requires transparency and simplicity, not easy to accomplish. They require small devices (non intrusive) able to detect normal and emergency situations and react accordingly.

The know-how obtained in SAIL will be used to go for real implementations of network coding techniques that improve current physical layer transmission techniques. Moreover the development of self-management techniques in DTN networks will be incorporated to current and new personal communication devices for a more efficient routing and caching when the devices are mobile and highly constrained in terms of resources (memory, battery, CPU, ...).

Current products lack of awareness both of the context and the users. The techniques developed in SAIL will allow these products to gain monitoring capabilities, learn people habits and react to new situations in an optimal way. SAIL techniques will materialise in a Smart Wireless product-line based on the monitorisation of human activity over time. This line of products will be based on an exhaustive and continuous collection of relevant data (location, social affinities) that let the system characterise people behaviour and infer future needs based on history and current state. Such information is very relevant to automatically personalize the environment according to the user preferences (very useful with elderly and handicapped people).

Institut Telecom

Institut Telecom (IT) aims at ensuring knowledge transfer towards students, both from engineering and MSc programs. IT will take benefit of its in-depth understanding of the topics developed in SAIL to disseminate this understanding inside the IT SME club, for potential re-appropriation by the SMEs of the new technologies developed in the project.

Institut Telecom participates in SAIL WP-D and will be particularly contributing in the WP-D cloud networking architecture, prototyping and security for the cloud. One intends to present SAIL results in the Future Internet Assembly and other European Commission events, such as think tanks and FIRE. Contribution to cloud working groups (e.g., OCCI) and possibly to other related standardisation bodies is also among our goals. In addition, one will seek interaction with other European projects and open source fora in clouds.

IIT

The Technion exploits the results of its research in standard bodies where it is active (primarily the broadband forum), and other EU, US and Israeli-funded consortiums. Additionally, the research results can be used for advanced courses in the Technion and other educational events, such as the Future Internet Summer School.

DOCOMO

DOCOMO's focus in the project is placed on realising the vision illustrated by the following scenario.

Imagine a video is distributed from a central server to a number of mobile users. However, the video is enriched with some information that is generated locally, close to the users receiving the video. Examples of such local information might be weather info, traffic jam alerts of even locally generated video, such as web cam from a surrounding area.

A straightforward solution to realise such a service is to send the local information to the central server, process it there, i.e., create a set of video streams customised for specific users or areas and then send those back to their corresponding users.

A better way to provide the described service is as follows: consider the available locations in the network providing processing units capable of integrating the locally generated information with the centrally originated video and place the respective service components at those locations which are beneficial for execution with respect to some performance metrics.

Both flexible placement of service components at instantiation time and dynamic re-arrangement of service components onto fitting resources at runtime should be possible to achieve best possible service quality under varying service conditions. This requires functionality in the network which derives appropriate processing resources and coordinates instantiation or migration at runtime based on information like which resources are available at which locations, service requirements and current network status.

DOCOMO' plan during the project is to develop a set of technologies to make this vision true. Doing that is expected to bring benefits to both users and network operators, and as such should be highly appreciated by all involved parties. DOCOMO plans to deploy such a solution in its network as soon as possible.

INRIA

INRIA expects to integrate the elaborated solutions to the experimental platform Grid5000, for free service diffusion to the G5K's users community.

Technological outcomes related to monitoring, elasticity management and security issues will be valorised by and transferred to LyaTiss, a young INRIA RESO's start-up developing solutions for Virtual Infrastructures orchestration and Cloud Network optimisation, and which also directly collaborates to the SAIL project.

As a member of both projects, INRIA-RESO team will strive to insure a close collaboration between SAIL and GEYSERS (generalised dynamic infrastructure services), another IP FP7 project that aims at linking Optical Networks and Clouds. More specifically, since INRIA and LyaTiss are responsible for the WP6 on Dissemination and Exploitation of the GEYSERS project, common workshops will be organised.

TCD

TCD will use SAIL to generate additional course materials for our taught MSc and structured PhD programmes which already include some delay-tolerant networking (DTN) lectures. One will also graduate two PhDs partly funded by SAIL. As a leader in DTN, TCD will continue to collaborate with Irish, European and worldwide partners on various DTN projects and activities. SAIL and NetInf will extend our set of potential partners for such research projects. TCD will take part in any IRTF research and IETF standardisation activities around DTN or NetInf.

NICTA

For NICTA, the primary means of exploiting the project results is via scientific publications and demonstrations of the experimental platform showcasing the NICTA and collaborating partners results at high level conferences. Along with NICTA staff, PhD students will be participating in SAIL and both contributing their research results and using the scenarios for development of research solutions. There is also a potential to contribute to the IETF DCCP Working Group within the "new CCIDs" part of the WG charter.

UC

Considering the profile of UC (devoted to higher education and advanced research), the plan is to disseminate and exploit the results achieved during the SAIL project by means of different mechanisms. UC participates in the organising committee of various conferences (e.g. ICST MONAMI) and one is also targeting such conferences. UC also plans to cooperate with the particular dissemination activities promoted by the SAIL project, such as workshop organisation (collocated, e.g., with other conferences).

On the other hand, the acquired know-how will be the basis for future cooperation and research initiatives, especially regarding Next Generation Networks and the corresponding challenges which are envisaged at the access part, from the architecture designed in the OCONS WP. Last, but not least, UC will also benefit from the framework brought about by the project so as to improve and extend its syllabus portfolio, both by advanced lectures in Master programmes and as a guideline for Master thesis and PhD topics. UC would be also interested in other teaching activities, like the organisation of Summer Schools.

In particular, UC plans to exploit the simulator framework as well as the testbed (prototyping activities) which will be developed in the framework of the SAIL project to carry out more analysis afterwards. Their use will continue to grow even after the SAIL project finishes. It will be exploited both for education activities and for future research initiatives. Regarding this latter point, the know-how acquired during the project life time will be used to foster the relationship with the European industry. Hence, UC aims at exploiting the possibilities brought about by the gaps in terms of technologies, products and services, which should be covered by means of the SAIL results.

4 Conclusions

SAIL will provide essential contributions to the Network of the Future Objective of EU FP7 [ECFP2010], in the medium- and long-term perspectives. Dissemination actions from SAIL aim at communicating project results to a wide audience, fostering the adoption of project results and its impact, facilitating the exchange of information and the interaction not only with other projects but also with activities in industry, academia, and society as a whole. In parallel to dissemination, exploitation of results plays a major role, namely for the major industrial partners, as this has a stronger industrial impact towards product development and standardisation. This report gives a detailed description of the project dissemination and exploitation plans.

Concerning dissemination activities, the following are planned, and presented in detail: Public Website, Press Release, Leaflet, Newsletter, Papers in Conferences and Journals, Participation in Target Events, SAIL Workshops, Demonstration Event, SAIL Training School, Interaction with other Projects and Fora, Web2.0 Activities. The Project Coordinator function is responsible that the activity will be lead within the consortium.

Exploitation activities are also addressed in detail, being structured along several dimensions, i.e.: the actor (i.e., industrial and academic), the type (technical improvements or strategic guidelines), and the audience (internally to the consortium and or externally to a wider community). Furthermore, specific plans for each partner are also presented.

The exploitation and dissemination in SAIL, involving all partners, includes a number of activities, targeting, in general, the area of Networks of the Future and Future Internet. The coordination of all these activities is performed within WP-A "ICE - Impact & Collaboration Enabling", more specifically by T-A.3 "Dissemination".

5 References

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