

SSEDIC: Building a Thematic Network for European eID

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Abstract—Digital Identity is a critical element for a digital society as proposed by the Digital Agenda for Europe. The width and breadth of the subject makes it mean different things in different sectors, even to different projects funded by the European Commission. Thus, having a network that provides a platform for all the stakeholders of electronic identity to work together and collaborate to prepare the agenda for a proposed Single European Digital Identity Community, is of prime importance to the achievement of said goals. The network, SSEDIC, is working on identifying the actions and the timetable for the Digital Agenda and the successful launch of the European Large Scale Action and European Innovation Partnerships, as well as to provide a multi stakeholder planning resource to assist its implementation. A first batch of deliverables will be presented to the European Commission at the end of February 2012 and then made available to the public. This paper will present the SSEDIC expert network as it is now, what has been done to build the network and the accomplishments of its first year. But, the most important aim of this paper is to increase awareness about SSEDIC and reach out to some valuable contributors that had not yet been identified to get them involved in the network.

Keywords—*Electronic Identity; Single European Digital Community; Digital Agenda for Europe.*

I. INTRODUCTION

Every European digital [1] (by 2020) this is the ambitious goal set by Commissioner Neelie Kroes for the Digital Agenda for Europe (DAE)[2]. In order to achieve this goal, a single European digital community is needed, and the DAE (Digital Agenda for Europe) sixteen key actions [3] show how it could be achieved. Also, the DAE calls for stakeholder involvement to reach the goals.

Key action 16 in the Digital Agenda for Europe [3] proposes a Single Digital Identity Community and scoping that is the purpose of SSEDIC. The network has built a platform where stakeholders can identify the actions and the timetable for their resolutions to result in the successful launch of the European Large Scale Action and European Innovation Partnerships (ELSA/EIP). This cannot happen out of thin air, thus SSEDIC [8] is building upon the ELSA/EIP thematic consultations carried out by the ELSA/EIP eIDM (*Electronic IDentity Management*) Expert Working Group [4] and today's Large Scale Pilots (LSPs) such as, but not limited to, STORK [5], PEPPOL [6] or SPOCS [7].

The SSEDIC thematic network [8], during its first year in existence, has established a series of stakeholder groups in sectors outlined in the ELSA/EIP report [4]. Each of the groups will consider, through further consultations, the political, economic, social, technical, legal and environmental aspects of a single European digital community.

This network is built gathering experts from 35 partners and an initial group of associated partners. The former provide 67 experts in electronic identity (eID) who are picked for their knowledge of the eID or stakeholder domain rather than just as representatives of organisations. This has been a fundamental criterion for partners to ensure that the views and consultations are of the highest value and relevance to this highly important thematic. The later can grow as much as wanted and one of the main aims of the present paper is to increase the visibility of SSEDIC in as much pertinent communities as possible, because the ambition of this network is to build a community of high level European and international experts up to 2013 and, if possible, beyond.

A stakeholder is defined as any group or individual that can affect or is affected by the achievement of SSEDIC [8] objectives. They often have differing interests and may put conflicting pressures on the project. The consortium needs to attend to a rich variety of claims and interests of stakeholder groups in the industry, yet at all times needs to profile a coherent identity of the project to each and every one of these groups. A wide range of persons and groups exist with differing legitimate interests in SSEDIC. Recognising and addressing their needs and interests will in turn enhance the performance of the project, ensure that it is aligned with market realities, and secure its continued acceptance.

Additionally an overarching and integrated view of the accumulated results and inputs from the various stakeholder sectors will be taken in order to build an overview and impact assessment of a single European digital community on the overall European Community and also on individual EU Member States.

The high level outcome of the SSEDIC thematic network [8] is to provide a wide ranging and valuable consultation-based resource and consensus which will enable the European Commission to understand the **roadmap** that must be addressed within the ELSA/EIP programme to progress Europe's single

digital community vision as outlined by the DAE [2] across each and every sector of the European Community. And this output is intended to be a thought-through and widely agreed blueprint for step-by-step actions which can feed directly into the future ELSA/EIP-programme and drive that programme towards a successful conclusion delivering a European digital identity community.

In order to have real impact on society, the SSEDIC thematic network [8] is not intended to be an academic exercise, it is an action plan with a roadmap for the DAE for the coming decade. As such, SSEDIC results need to reflect a transformational shift in the way everyone in the European community will think, behave, transact and indeed live in the coming years. The vision to be established by SSEDIC can be a beacon to the rest of the world, demonstrating how the efficiency of a digital community can be translated into cultural and economic leadership. Although the vision will need to be technology led, it cannot be technology targeted; rather, the vision should integrate goals derived from stakeholder sector needs and benefits and within a holistic framework of actions.

The present paper will describe the SSEDIC thematic network background and work methodology, that has led to a first batch of deliverables that will seed the final results expected by the end of 2013.

II. BACKGROUND

In 2009, the European Large Scale Actions consultations commenced the description of a Single European Digital Community. A number of SSEDIC partners made contributions via the ELSA/EIP eIDM Expert Working Group, which resulted in the *ELSA/EIP report* [4]. This consultation described an interoperable network of independent but regulated Identity Service Providers, many possibly Public-Private partnerships, which would make an eID (not *National* eID) available to each citizen within each Member State, while retaining full freedom of choice for the individual.

SSEDIC partners include representatives of member states with a *National eID* infrastructure as well as countries with alternative eID models.

SSEDIC partners include experts and organisations that have participated in the eID initiatives of Norway, Denmark, Austria, Italy, Belgium and Germany. Also, SSEDIC keeps contact with the eGov subgroup via the Commission, in order to assess eGovernment policy and in particular eID policies of the Member States.

The Large Scale Pilots such as STORK [5], SPOCs [5], epSOS [10], PEPPOL [6] and other projects are critical to the success of the Single European Digital Community. The technology and standards being evolved will form the cornerstones for interoperability, not only for cross-border use cases, but also to establish and cement trustworthy relations between Identity Service Providers in the same countries. Many of these projects could not join SSEDIC as full partners themselves, but are contributing as observers with strong inputs to the consultations, thus providing an opportunity to ensure the continuity and sustainability of their key outputs.

On the other hand, many of the contributors to these projects are SSEDIC partners, thus there is strong involvement of the coordinators of the LSPs in the SSEDIC Network and overlap of many members. This will ensure that full mutual benefit is realised and the standards, components and demonstrator experience can be incorporated into the consultative outcomes. As SSEDIC progresses, contacts with other EU projects in all sectors will be fostered.

The Higher Education sector is a special case as they already have electronic identity infrastructures in production across Europe and beyond, that connect research and educational institutions both inside Member States and inside and outside the Union. Three partners of project SEMIRAMIS [11], that deals with eID supporting the movement of students inside the European Higher Education Area [12], are SSEDIC partners. Other partners connect SSEDIC to experts networks in Europe dealing with eID federations in research and education.

STORK [5] is essentially a proof of concept of technical interoperability, but the project has established the basic building blocks of the infrastructure that will ensure eID interoperability at European level, including common code for an architecture and interoperability platform which will be released under EUPL. These building blocks address other dimensions beyond technical interoperability, such as multilateral trust mechanisms, framework for security assessment of national infrastructural components, harmonisation of Quality Authentication Assurance mechanisms, etc. Additionally, the pilots that the project have set-up, and which make use of the above mentioned infrastructure, have a strong potential beyond the project time frame. SSEDIC will use as basis the studies, technology overviews, and prototypes on new and upcoming technologies produced in STORK for the consultations with the experts groups. SSEDIC has a strong link to STORK through six common partners. These strong relationships will result in additional benefits and allow for making suggestions as to how to exploit the achievements of STORK and its pilots into the future.

III. WORK PLAN AND METHODS

There is a **communication plan** supported by an **action plan**, that cover the 36 months duration of the project, to use and disseminate knowledge at different levels. The main areas addressed by the plan are:

- promoting the SSEDIC thematic network identity and results within the network and beyond;
- sharing general knowledge, specific information and documents through open source collaborative tools;
- organising meetings, seminars and workshops in different formats for the use of the entire thematic network team, using traditional as well as innovative techniques;
- continuously integrating the SSEDIC thematic network knowledge in partners dissemination channels

A. PESTLE

The aggregation and organisation of the consultation data will be based on PESTLE, which stands for:

- Political
- Economic
- Sociological
- Technological
- Legal
- Environmental

PESTLE analysis is an audit of an organisation's environmental influences with the purpose of using this information to guide strategic decision-making. A PESTLE analysis is a useful tool for understanding the *big picture* of the environment in which any organisation is operating [13].

All consultation work will take into account these six aspects, where relevant.

The PESTLE analysis will allow for the production of time lines with specific actions to be carried out in each of the six aspects.

B. Activities

SSEDIC has established a series of stakeholder groups in sectors contributing to the EIP. Each of the groups considers, through further consultations, the political, economic, social, technical, legal and environmental aspects of a single European digital community. These groups are formed off the experts from the 35 partners plus experts from associated partners, which number should grow by accretion over the 36 months lifespan of the project. Each stakeholder work programme consists of brainstorming workshops, strategy papers and joint meetings with more general sector organisations to gain a fuller understanding of the requirements and prerequisite actions for delivery of the vision in that sector. Hard data will be built to consider the impact and opportunities of the single European digital community in the short, medium and long term.

C. Work Packages

SSEDIC has organised the consultation at 3 levels and each of these levels has a dedicated work package:

- 1) Stakeholders Sector Consultation
- 2) Technology and Infrastructure Consultation
- 3) Business Model and Regulations Consultation

plus three global work packages dedicated to coordination, dissemination and outcome management.

The materials produced by the three consultation work packages will be merged by the outcomes management one and used for dissemination.

The stakeholders sector consultation, due to the large number of stakeholders sectors, has required these to be formed into 6 groupings described in Figure 1.

The consultation on technology and infrastructure is split into natural areas of interest:

- Security
- Privacy and Ethics
- Enrolment
- Identity Models
 - Nonrepudiation

- Interoperability
- Identity Service Provision
- Authentication
- High Level Architecture
 - Standards
 - Integration
 - Resilience
 - EU projects
- Accessibility
 - Credentials
 - Accessibility
- Operations
 - Regulations
 - Monitoring
 - Quality of Service

The Business Model and Regulatory consultation is considering business models, revenue models, and regulatory regimes needed to establish a successful vision. It is looking in depth at the ELSA/EIP Thematic consultation [4] and further expanding these business aspects. It is also looking at Member State issues, interoperability and also cross stakeholder benefits. This work package overlaps many stakeholder and technology issues such as privacy, ethics and standards.

D. Tools

The ambition of the SSEDIC thematic network, is to build a community of high level European and international experts. This community is being built via virtual tools such as a dedicated online workspace and online conferences as well as via real live events integrated in the EEMA (European association for eIdentity and security) [9] conference programme and other major European events.

Our strength is the quality of our network individuals, not just their affiliate organisations. Each of the experts is picked for their knowledge of the eID or stakeholder domain rather than just as representatives of organisations. This has been a fundamental criterion for partners to ensure that the views and consultations are of the highest value and relevance to this highly important thematic project.

The network is composed by four groups of partners who check and balance each other in their different sectors:

- Industry: who have strong contacts in the private sector
- Public sector: with access to government and local agencies and stakeholders
- Academic partners: with critical reflections on industry services and public sector requirements and interests such as Erasmus students.
- Small and medium sized consultancies: who have strong influence across all domains.

As much dedication and knowledge as persons can dedicate to the SSEDIC network, there is a clear need for technological tools to support them. Thus, SSEDIC has established a main dissemination web site, <http://www.eid-ssedic.eu/> with both public and private areas for document and information sharing

Government	Society	Business	Leisure	Finance	Transport
eParticipation	eHealth	Telecommunications	Media	Banking	Automotive
eJustice	eInclusion	Manufacturing	Culture/Arts	Insurance	Aviation
Law enforcement	Emergency Services	eCommerce	Sports	Intermediation	Shipping
Regulation authorities	Environment	FMCG/Retail	Adult content	Internet payment	
Border control	Education	Food-chain	eGaming	Mobile payment	
Local authorities	NGO's	Agriculture & Fisheries	Social Networks		
	eConsumer				

Figure 1. Stakeholders Sectors Grouping

and download. Final results will be published in this web site when available.

A second technological tool is an online social network and community building one provided by one of the SSEDIC partners, located at <http://ssedic.syncsphere.com/>. This tool is used for discussions on the consultation process and allows the network experts to share knowledge and opinions.

The third big technological tool is the on-line surveying one, that has allowed the network to carry out a first survey on eID gathering input from 211 experts on the matter.

Of course, other tools such as email or teleconferencing are also being used to coordinate the experts network.

Non technological tools like publications and presentations in relevant events are also being used for the dissemination and outreach of the SSEDIC thematic network.

E. Barriers

The SSEDIC thematic network identified four barriers that could hinder its efforts and prepared mitigation actions:

- 1) Lack of response from stakeholders
A large, and increasing, number of experts minimises this risk
- 2) Non-representative opinions
Minimised by carefully monitoring each sector
- 3) Lack of funds for in-depth citizen consultation
Mitigated by the use of online surveying tools
- 4) Contrary interests of stakeholders
Mitigated by already existing consensus for the need of a common vision of eID and the wide involvement of stakeholders in SSEDIC

IV. PROJECT FIRST YEAR

The project officially started on December 15th 2010 with the SSEDIC kick-off meeting. The main aims of this first year the project have been to:

- Introduce the project to all stakeholders;
- Make stakeholders aware of basic information regarding the SSEDIC project
- Inform stakeholders of the portal as an information resource
- Help promote the project in conferences and other events
- Initiate interaction with stakeholders and receive feedback and reactions about the project that will be used in media relations and in designing the dissemination plan

- Promote participation of institutions and organisations through the Project Forums and surveys in the portal
- Focus from the start on establishing a favourable reputation for the project and consortium
- Profile a coherent identity of the project to each and every one of the stakeholder groups

V. RESULTS

It must be emphasised that SSEDIC is a thematic network for consultation and is not mandated to make decisions on technologies. However it is envisaged that technical recommendations and statements of Best Practice will be agreed and presented among the final outcomes.

A. Expected Final Outcomes

SSEDIC [8] final outcomes should enable the European Commission to instigate measures to allow Member States fulfil the vision.

- 1 SSEDIC will create for each Stakeholder Sector an electronically retrievable resource, containing the main consultations, consensus and impacts. This should enable the entire European Community to conduct actions that will ultimately contribute to or benefit from the Single European Digital Identity Community.
- 2 SSEDIC will create, at the technical level, an electronically retrievable road map of critical actions, milestones and time lines. This road map will outline how to achieve the vision of the Single European Digital Identity Community.
- 3 SSEDIC will create a combined topological mapping of all the Stakeholder and Technical Sectors, which will be integrated into this single high level road map. This mapping will ensure that role/responsibility divisions and expectations are clear to all stakeholders.
- 4 SSEDIC will create a combined impact assessment summary, across all the Stakeholder and Technical Sectors integrating all business and regulatory issues.

B. Achieved Results

Over its first year of existence, the SSEDIC thematic network has already been able to produce some good quality deliverables with interesting information, relevant. These materials will be available on the main dissemination web site, <http://www.eid-ssedic.eu/>, once they are presented to the

European Commission. We are not authorised to reveal the contents until this presentation has occurred. The results will be available under a Creative Commons license in order to achieve as high an impact as possible.

Many of the partners have done presentations in sector events as well as in institutional meetings like the Euro Parliament or the International Telecommunications Union, and events organised by network partner EEMA [9].

Each of the relevant work packages have produced a report with information of the activities and consultations that have been carried out in their area, interim reports and conclusions, calls for action and future activities.

211 eID experts all over Europe were surveyed on items about

- The impact (or not) of eID in a professional environment
- Their policy views on different aspects of eID
- The adoption of the eID technology in a business environment
- Possible future business and governance models on eID infrastructure
- Security and privacy aspects of eID

The results of this survey have already been processed and transformed into a report that will also be presented to the European Commission at the end of February 2012 and the made publicly available at the SSEDIC main dissemination web site, <http://www.eid-ssedic.eu/>.

VI. CONCLUSIONS AND FUTURE WORK

The network start has not been an easy one because it is difficult to coordinate such a big and heterogeneous group of people as busy as field experts. But, the willingness of this same group of people to collaborate towards a common vision of eID in Europe, and beyond, has been key to a successful start.

Work is already progressing as predicted and the first results have seen the light, though not yet, as the writing of the present paper, general availability.

There are clear definitions for further work during the two remaining years of the project into 2013 and ways to improve what has already been done such as:

- More sector reports
- Surveys focused on different sectors
- Increase the level of discussion
- A big eID event involving all interested parties, stakeholders and LSPs

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The present paper is not in any way personal work, it is just a recount of the work done by the SSEDIC thematic network consortium partners for winning a bid and to set up the project, and the work of all partners, consortium and associate, and other contributors to the consultations who have given excellent input to the results achieved so far. Of course, the authors would like to thank all of these people and also those LSPs and CIPs that have paved the way for our network to be a need.

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