



DLV06.01- Final Report

Study on functional, technical and semantic interoperability requirements for the single digital gateway (SDG) implementation

11/10/2018

Table of Contents

- 1 Introduction 3
- 2 Scope and objectives of the document..... 3
- 3 Project tasks 4
 - 3.1 Task – 01: Project Management..... 4
 - 3.1.1 Objectives..... 4
 - 3.1.2 Outputs..... 4
 - 3.1.3 Conclusions, recommendations and lessons learnt..... 4
 - 3.2 Task – 02: IT Architecture..... 5
 - 3.2.1 Objectives..... 5
 - 3.2.2 Outputs..... 5
 - 3.2.3 Conclusions, recommendations and lessons learnt..... 5
 - 3.3 Task – 03: Functional and technical requirements..... 5
 - 3.3.1 Objectives..... 5
 - 3.3.2 Outputs..... 5
 - 3.3.3 Conclusions, recommendations and lessons learnt..... 6
 - 3.4 Task – 04: Identification of interoperability challenges..... 6
 - 3.4.1 Objectives..... 6
 - 3.4.2 Outputs..... 6
 - 3.4.3 Conclusions, recommendations and lessons learnt..... 6
 - 3.5 Task – 05: Ad-hoc activities..... 7
 - 3.5.1 Objectives..... 7
 - 3.5.2 Outputs..... 7
 - 3.5.3 Conclusions, recommendations and lessons learnt..... 7
- 4 Next steps..... 7

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1 Introduction

The present document, framed into the project "*Study on functional, technical and semantic interoperability requirements for the single digital gateway implementation*" aims at presenting an overview of the outcomes and recommendations (when applicable) resulting from the completion of the tasks in scope. The study is part of the ISA² action 2017.05 "*Common architecture for the Single Digital Gateway*".

The SDG will be aligned with the proposal for a Regulation (hereafter *proposal for a Regulation*) of 2 May 2017 [COM(2017)256]. The proposal aims at making it easier for EU citizens and businesses, who need to navigate regulatory and administrative requirements, to access the necessary information, procedures and assistance services online.

The main objective of the project was to provide the technical basis for the implementation of the single digital gateway (SDG) by:

- Specifying the business processes and IT architecture;
- Defining the functional and technical requirements;
- Listing cases where functional, technical or semantic interoperability questions could arise and assessing for each of them the current situation, the target situation and the gaps.

2 Scope and objectives of the document

This document is the final report related to the tasks 1 to 5 of the "Study on functional, technical and semantic interoperability requirements for the single digital gateway implementation" conducted from January 2018 until July 2018.

For each task, this document recapitulates the objectives, the outputs and the recommendations drawn from the study.

3 Project tasks

3.1 Task – 01: Project Management

3.1.1 Objectives

Project Management was conceived as a transversal activity that took place throughout the duration of the entire project in order to address all project management duties. The project was planned, executed and monitored according with the methodology developed and supported by the European Commission, PM².

3.1.2 Outputs

The task produced the following deliverables:

- **ODLV01-01 Project Handbook:** Description of the project objectives, scope, stakeholders, constraints, management approach, progress measurement, roles and responsibilities, and high level work plan.
- **ODLV01-02 Project Work Plan:** Identification and organisation of the project into activities, sub-tasks and work packages needed to achieve the project goals. The project schedule for the project was also provided within the scope of this document.
- **DLV01-01 Quality Management Plan:** Description of the processes and activities used by everis to determine quality policies, objectives, and responsibilities so that the project could satisfy the defined quality criteria.
- **DLV01-02 Bi-weekly Project Progress Reports:** Provision of information about the status of the project and with traceability about the actions, decisions and risks took during the project.
- **DLV01-03 Meeting Minutes:** Summary of the discussion points and decisions taken during the meetings between stakeholders.

On the scope of the task, everis also prepared and led several meetings, namely:

- The kick-off meeting, held on January 17 2018;
- Monthly progress meetings;
- Technical meetings: ad-hoc meetings to discuss in depth technical aspects mostly linked to the definition of the Business Processes and the IT architecture;
- Final report meeting.

3.1.3 Conclusions, recommendations and lessons learnt

These documents were especially relevant to know the initially planned project management plan and the different management decisions taken throughout the project lifecycle. Meeting minutes, bi-weekly reports and other deliverables listed above serve as log for the most relevant events, risks and actions agreed upon with the EC. This information is extremely valuable to know the motifs behind specific decisions based upon the original project baseline.

The main recommendation for the upcoming phases of the Single Digital Gateway is to maintain similar project management practices and outputs, since the mechanisms in place were proven to be cost-effective (not adding too much overhead and thus allowing the project team to focus on the core tasks).

3.2 Task – 02: IT Architecture

3.2.1 Objectives

Definition of the business processes required for the implementation of each of the IT Tool, including development tasks and information flows along with the definition of the IT architecture containing the specification of all the modules required for the operation of the SDG.

3.2.2 Outputs

- **DLV02.01 Business Processes:** the business processes document included an in-depth view of the processes necessary to put in place and run each IT tool, including development tasks and information flows.
- **DLV02.02 Architecture:** building on the business processes two main artefacts were developed: (1) Archimate® artefacts containing the modelling of the most salient building blocks of the IT architecture in alignment with the European Interoperability Reference Architecture (EIRA) and its cartography tool (CarTool), and (2) a document containing a narrative explaining the mains architectural building blocks and the methodology used to model it.

3.2.3 Conclusions, recommendations and lessons learnt

When developing the architecture and more specifically Archimate® artefacts, a close collaboration with DIGIT was deemed to be necessary. In this regard, several meetings took place to ensure that the ultimate outputs matched the quality standards set by DIGIT. For the next phases of the project we encourage to maintain this close collaboration with DIGIT to ensure that further work on the Architecture complies with the specificities of both EIRA and CarTool.

Since Archimate® artefacts do not provide a narrative themselves and might be rather abstract, an architecture document was created in order to develop and explain further the rationale behind each of the components of interoperability layers that are an integral part of the architecture.

A key takeaway from the development of the architecture was the usefulness of re-using in the SDG existing Architecture Building Blocks already developed for other European solutions (e.g. EU Login).

3.3 Task – 03: Functional and technical requirements

3.3.1 Objectives

On the basis of the IT architecture, definition of the functional and technical requirements for each IT Tool to be fulfilled by the SDG.

3.3.2 Outputs

- **DLV03.01 Functional requirements overview:** Identification of all the functional requirements necessary to run the different services of the SDG.
- **DLV03.02 Technical requirements overview:** consolidated list of all technical requirements to be fulfilled by the SDG.

3.3.3 Conclusions, recommendations and lessons learnt

For the functional requirements, user stories have been identified and described connecting business needs to users' needs; from the user stories, functional requirements have been developed as functionalities that the SDG System should perform to give response to the users' needs.

While the functional requirements focus on what the system is supposed to do, the technical requirements defines how a system is supposed to be. The technical requirements was taken into account the wide range of users that rely on the system, first when developing, then when interacting with the SDG, and finally when maintaining the system.

3.4 Task – 04: Identification of interoperability challenges

3.4.1 Objectives

Identifying the interoperability challenges to the SDG implementation and analysing the gap between the AS-IS situation and the TO-BE target scenario where the interoperability challenges are overcome.

3.4.2 Outputs

- **DLV04.01 List of cases where interoperability challenges may occur:** Included the list of all cases where functional, technical or semantic interoperability questions could arise for the development and the use of the SDG IT tools.
- **DLV04.02 Analysis of interoperability challenges:** Analysis of all the cases identified in DLV04.01 of the current and target situations and of corresponding interoperability gaps.

3.4.3 Conclusions, recommendations and lessons learnt

The analysis performed in Task – 04 resulted in a list of the main interoperability challenges that the SDG will face with regards to the data exchanged between systems, with the correspondent description of what each challenge entails and potential actions that could be carried out to bypass them.

The work built upon the best practices and recommendations stemming from the European Interoperability Framework (EIF), which should be taken as reference for the upcoming phases of the work envisaged for the project.

A sample analysis, in a form of a very simple survey, with the objective to identify how the information about feedback is collected, stored and processed, was sent to 10 Points of single contact and to the assistance services. This sample analysis had the objective to complement the findings of the desk research done before. The answers received were different one to another and was evident that MSs and assistance services are using different approaches to collect and process data (when applicable). Considering that the next phase of the study will focus on the identification of existing tools, building blocks and development needs, is recommendable to an exhaustive analysis of all the existent platforms and existent data models. This will be extremely relevant to understand the actual reality and to start working in a common agreement with MSs and assistance services about potential implementations needs and common data models. The creation of an exhaustive survey and workshops will be paramount to gather information and start establishing a common agreement.

As conclusion and summarizing the findings, to guarantee interoperability of the SDG, it is recommended to set up a sound and efficient organisational model, create a common data model for the exchange of information, and guarantee data availability and access.

3.5 Task – 05: Ad-hoc activities

3.5.1 Objectives

These are provisional/optional activities that although falling within the scope of the contract and target the fulfilment of the contract's objectives could not be detailed with precision at the start of the project, therefore their exact nature was defined in the course of the contract.

Ad-hoc activities focused on participating and supporting the Commission in the elaboration of material for different workshops/meetings.

3.5.2 Outputs

- Workshop led by everis on the 20th of April 2018
- **DLV05.01 Workshop report:** Results of the workshop activities conducted on the 20th of April 2018.

3.5.3 Conclusions, recommendations and lessons learnt

On the 20th of April, everis conducted three workshops developed within the “*Exchanges on the development of the single digital gateway IT tools*” panel of the “Joint Meeting of the Your Europe Editorial Board and EUGO Network of Points of Single Contact” organised by DG GROW.

The objective of the workshop was to present the “*Study on functional, technical and semantic interoperability requirements for SDG implementation*” and to perform a brainstorming activity to understand the views and expectations of the attendees with regard to the SDG IT tools presented and to identify interoperability challenges.

The outputs of the workshop are described in detail in the deliverable produced in the scope of the task.

From a project management perspective, we encourage to plan/allocate additional capacity for the next phases of the project in the form of ad-hoc activities, as this mechanisms helps to accommodate unplanned tasks that may be identified as the project progresses.

4 Next steps

This study will be continued in the next phases of the aforementioned ISA² action, which aims to reach the following milestones: (1) identify existing tools, building blocks and development needs; and (2) asses options for implementation and estimation of costs. During the execution of the next phase of the ISA² action, is highly recommendable a strong cooperation with others ongoing development projects (e.g. The Once-Only Principle Project). Amendments on the proposal for Regulation have been called at the Council and at the Parliament and a final version of the regulation will be available at autumn. Although these are not foreseen to have a great impact on the outputs produced within the frame of the project, which are compliant with the latest version of the Regulation (Dated June, 2018), it is advised to review (and update, if necessary) – in the early steps of the next phase of the project – these outputs to ensure that the final approval text is duly reflected therein. The documents that should be reviewed are namely the Business Processes, Functional Requirements and Technical Requirements.