Advanced Big Data Value Chain for Public Safety and Personal Security

Newsletter / February 2018

Welcome to the Second News Alert of the AEGIS project

In this newsletter

AEGIS Survey - Data Analysis in your Organisation: do you really use it at its best?

The AEGIS project is currently reaching its intermediate stage, and, as such, we have developed a second version of our survey to collect further suggestions from the potential stakeholders, evaluating their concerns and expectations related to Big Data.

In particular, the main objective of this survey is to help us elucidate what the AEGIS platform impact will be on the market, considering all the steps of the AEGIS Big Data value chain, from collection to sharing, in real scenarios.

We would greatly appreciate your contribution in this process, by filling in the following short questionnaire: https://indivsurvey.com/aegis/117873/8il3tU

Responses will be dealt with confidentiality.

AEGIS third and fourth plenary meetings took place in Cyprus and Greece

The AEGIS team met together on October 2017, as well as January 2018, in Limassol and Athens respectively, for the 3rd and 4th plenary meetings of the project, hosted by Ubitech and NTUA.

The main objectives of the 3rd meeting were:

- To streamline the AEGIS architecture and define in detail the tools and integration points foreseen.
- To discuss the overall scenarios of the demonstrators and analyse their needs and the added value of AEGIS to them.
- To coordinate and strategically design the future work in the project.

Building upon the the outcomes of the meeting in Limassol, and the work performed in the intervening months, the 4th plenary meeting focused primarily on the following key points:

- To finalize the integration of components toward the first version of the AEGIS platform.
- To delineate the test cases and scenarios to be implemented for the first evaluation of the platform.
- To discuss the technical details and address any issues pertaining the various systems and functionalities offered by the AEGIS platform.

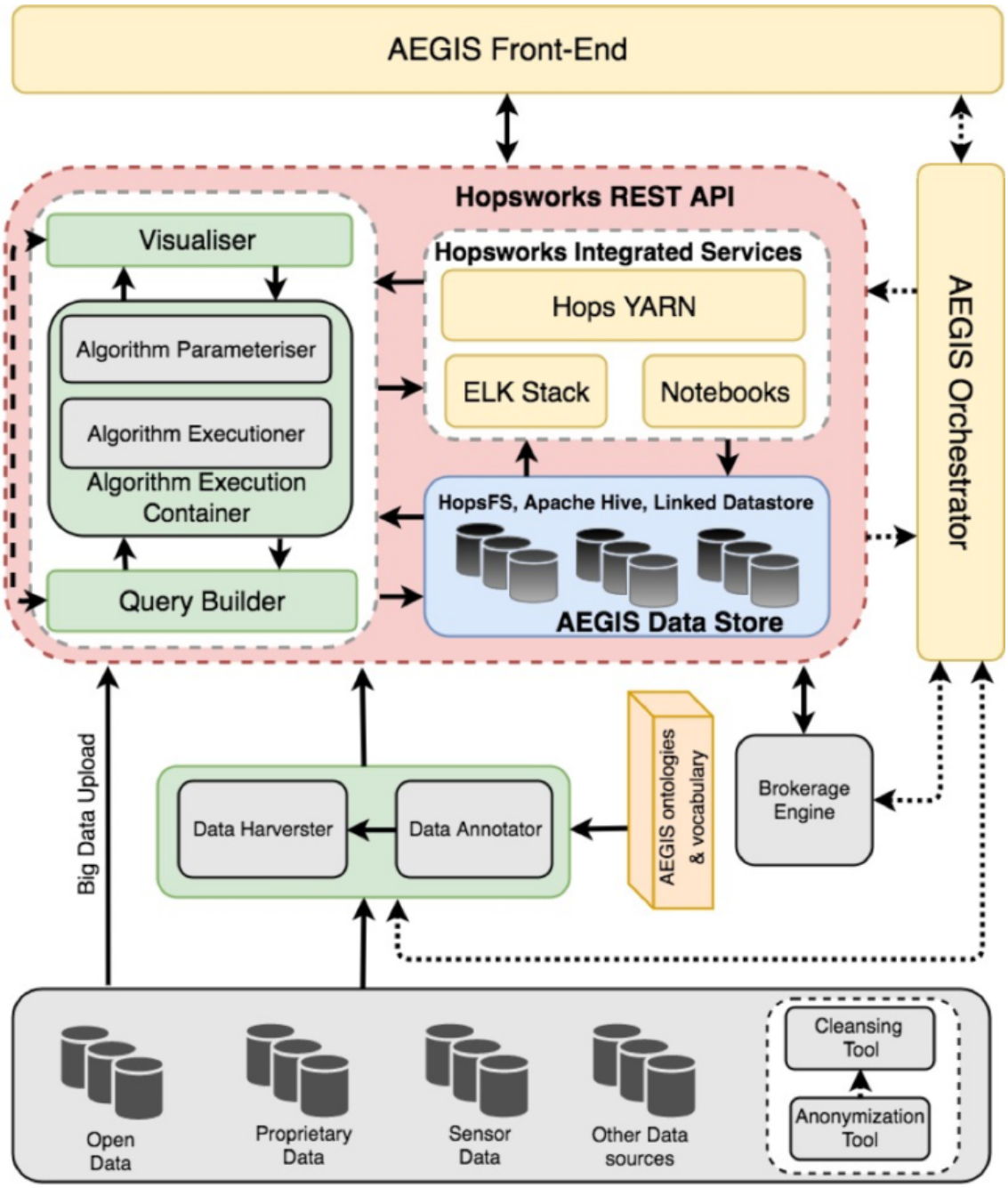
To find out more details, please visit our webpage.

The AEGIS Architecture & Technical Requirements: Methodology and Produced Results

The AEGIS platform promises a novel approach in data sharing and exchanging: a safe environment for the stakeholders to sell and purchase datasets, data services, algorithms or intelligence reports. In order to reach its objective AEGIS needs to understand the ambient in which it operates and the needs of its stakeholders, so as to offer a set of services adding value to this value chain.

Following an agile development approach, requirements were extracted and analysed, thus leading to the initial design of the AEGIS architecture. The stable, version 1 of the AEGIS architecture is graphically illustrated below. Functional and non-functional requirements were translated into technical requirements and mapped into functionalities of components, so that the set of

components, comprising the holistic AEGIS architecture, covers the complete set of requirements.



A detailed and in-depth description of the process followed for the definition of the AEGIS architecture can be found in our blog post here. The associated deliverable D3.1 – Technical and User Requirements and Architecture v1.00, is available through our website at https://www.aegis-bigdata.eu/public-results.

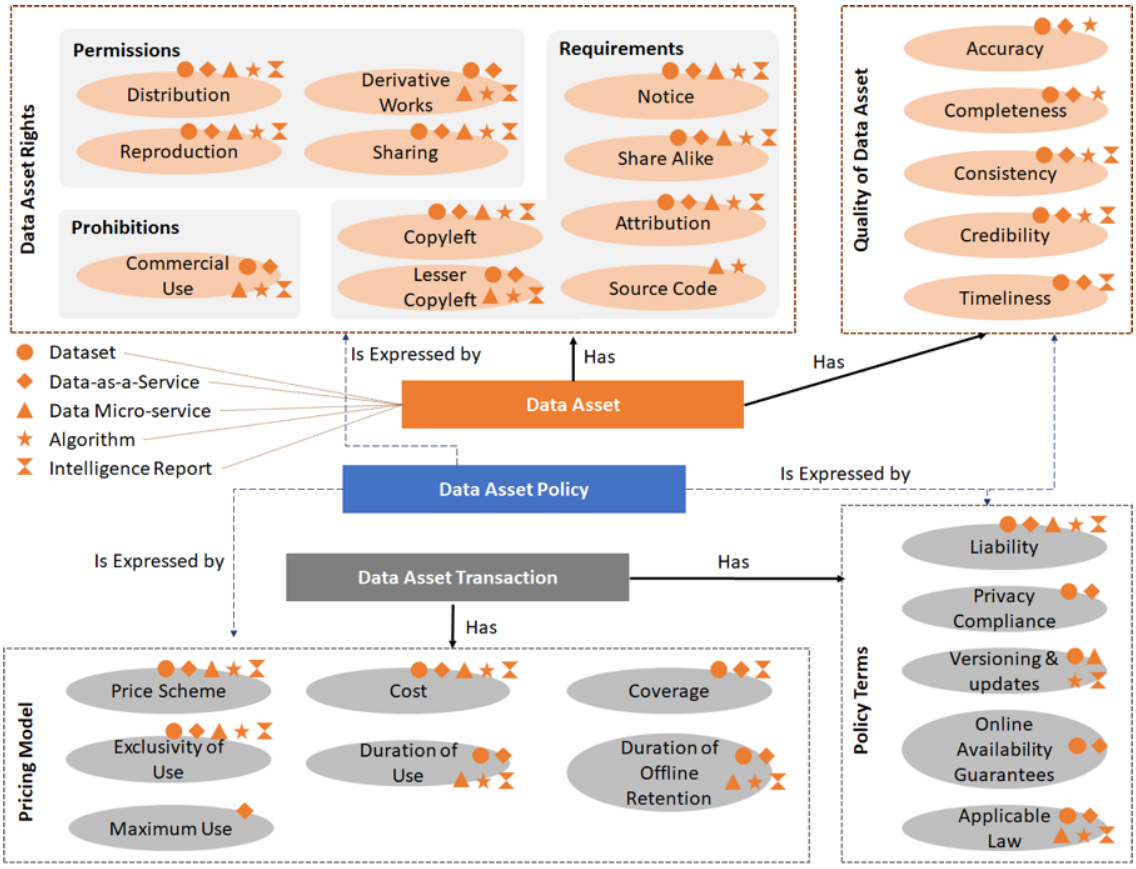
A sneak peek in the AEGIS Data Policy Framework and Business Brokerage Framework

The AEGIS platform promises a novel approach in data sharing and exchanging: a safe environment for the stakeholders to sell and purchase datasets, data services, algorithms or intelligence reports; what is generally known as “Data Assets” in AEGIS terminology.

This environment is based on a Data Policy Framework and it is managed by a Business Brokerage mediator. Both aim to provide useful tools that cooperate with each other to guarantee a secure and trusted exchange environment.

Each transaction in AEGIS platform involves a Data Asset Provider, a Data Asset Consumer and, of course, a Data Asset. Such a transaction is governed by a Data Policy Framework, which may consist of various sets of permissions and requirements, involving usage rights, pricing schemes, quality standards, or privacy/license terms and conditions.

The following schema shows an example of the Policy Framework to be adopted by AEGIS. There are four distinctive groups of policies: The Data Asset Rights group, the Data Asset Quality group, the Pricing Model and the Policy Terms. The orange shapes above each element denote the Data Asset they can be applied to.



The Business Brokerage Framework (BBF), on the other hand, has been designed so as to formally define and dictate transaction terms, supervise their execution, and make sure everything runs seamlessly and reliably.

The BBF implementation is supported by a blockchain architecture that will allow platform users to perform transactions under the same set of rules, with integrity and transparency. A typical transaction workflow begins with a Data Asset request by the customer (Data Asset Consumer). The BBF listener responds to the request and broadcasts the transaction to the BBF nodes, which in turn verify (or not) the transaction. If everything is ok, the transaction is added to the chain and distributed back to the network. The final step concludes the process by delivering the produced contract safely to the seller (Data Asset Provider).

For further information, you may have a look at our previous blog post, which thoroughly investigates the state-of-the-art of the main features of both frameworks, as well as the AEGIS Deliverable D2.1 “Semantic Representations and Data Policy and Business Mediator Conventions-v1.0”, available at https://www.aegis-bigdata.eu/public-results.

Digital Vehicle Ecosystems and New Business Models

The ongoing digitalization of passenger vehicles entails a rearrangement of stakeholder power relations within the automotive industry. The AEGIS automotive demonstrator, which focuses on road safety services that offer insights into road conditions, assist drivers and allow regional safety risk management, has started exploring the role of this digitalization phenomenon in general, as well as its impact in the automotive domain through quantified vehicle start-ups and new business models.

Among other results, the researchers identified three main approaches regarding service provision, based on the premise that in modern passenger vehicles, drivers can connect to the cloud. These were:

- Brand dependent assistance services, which provide access to vehicle functions and services via smartphone. Users thereby get access to vehicle functions via apps.
- Brand-independent apps and services, often as components of data ecosystems with several stakeholders, which provide transparency on driving data to be used e.g. in driving behaviour analytics.

- Strategic alliances of vehicle manufacturers with ICT firms (e.g. BMW teams up with IBM) to establish services & business models on how to make value out of vehicle data.

This work was presented by consortium members VIF and EPFL in the 2017 International Conference on Knowledge Technologies and Data-driven Business – i-KNOW – that took place in October 11-12 at, Graz, Austria. The related publication, as well as all other scientific articles published within the framework of the AEGIS project, can be accessed through our website at https://www.aegis-bigdata.eu/research-papers/.

About Us

AEGIS is a 30-month project, co-funded by the European Commission that aims that aims to bring together the network, data and technologies in a big data platform, utilising the latest advancements in the linked and big data landscape.

The AEGIS project, through its Big Data Platform, offers:

- Big data processing, enrichment, storage, analysis and sharing.
- Cross-domain batch and streaming data integration and harmonisation
- DCAT-AP conformed metadata.
- Data anonymization and semantic enrichment procedures.

You can find out more on the AEGIS project by visiting our website at https://www.aegis-bigdata.eu/.

The AEGIS project has received funding from the European Union's Horizon 2020 research and innovation programme under

grant agreement No 732189.