

# CAP

cloud analytics platform to facilitate business and industrial intelligence

## EXECUTIVE SUMMARY

The ITEA 2 project CAP (Collaborative Analytics Platform) has developed an open cloud-based Big Data analytics platform that facilitates producing business and industry intelligence from data on public and private clouds, enabling CAP participants to use advanced Big Data tools and share their data for more efficient and feature-rich applications.

## PROJECT ORIGINS

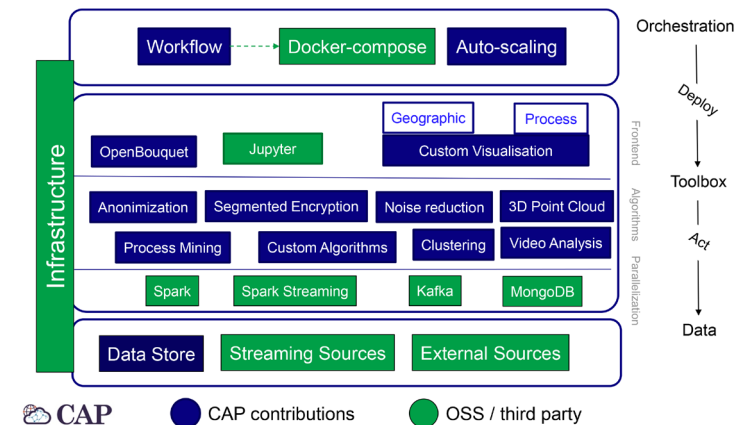
With the advent of enabling technologies, a wealth of public and organisational data are available for analytic processing, but often the access to the data and to efficient analytic tools is difficult. Furthermore, combining such sources of massive data can yield much richer applications and greater insights to intelligence reporting. Hence, a collaborative platform, which makes it easy on the participants to share data safely and to gain access to latest technology tools easily, is required. By positioning the target open-source architecture to support Big Data, ecosystems and value chains, the CAP project is contributing to the development of new but sustainable business models laying the foundation for a market value proposition of 'Big Data as a Service'.

## TECHNOLOGY APPLIED

CAP defines standard, extensible data models and interfaces for the exchange of data between the data owners, platform operators, cloud infrastructure operators and data scientists. With privacy and security paramount when entrusting data to third parties, the project investigated data protection and privacy in the cloud environment as a key deliverable for the adoption of the platform. The platform incorporates open Big Data tools and features that all participants can make use of and enhance further, thus enabling access

to data, sharing, and processing in real-time to be facilitated by a single platform. A key deliverable is the new range of business models that establish metrics for the value of Big Data. These features enable CAP to regulate the stakeholders' collaboration and develop new innovative business environment based on shared data and knowledge, in a safe environment where data owners have the opportunity to valorise their data across other domains.

The CAP project delivered an impressive set of industry-based use cases that demonstrate how an enabling platform can generate remarkable benefits in response to highly diverse range of industrial and commercial needs. The demonstration of instantiations of the platform model and the interoperability tests proved that the standard tools for Big Data can operate as a common service platform across Europe and beyond. The use cases range from the orchestration of workflow of CCTV traffic



CAP Component Model

analytics and telecom tracing analytics, to machine manufacturing processes and geo-intelligence, weather predictions and mail data logs.

The CAP project provides a generic PaaS architecture that can be used as a generic 'Big Data as a Service' business. CAP provides an access point to the data science community, a lower investment threshold to big data processing, security and privacy assured access to data, an open catalogue of data services and analytics software, and a 'franchised' brand for trust and interoperability across Europe. This unique capability of the CAP platforms facilitates the opening of a new space for value creation: the Big Data Marketplace.

## MAKING THE DIFFERENCE

CAP partners are themselves prime examples of the impact of the platform on their business. In analysing mail data logs, La Poste detected fraud in much shorter term, proving positive ROI in CAP. La Poste also benefits from customer experience improvement and cost reduction for the medium term, and progress on anonymisation techniques that will allow concrete input to be given to the organisation's 'data market' strategy. Hence, the Big Data Lab in La Poste puts data in the centre of their innovation and external growth strategy.

Thales will be using CAP to industrialise the analytics platform for their Security Operational Centres and in their crisis management solutions.

In Finland, VTT has created a publicly available Icing Atlas (e.g. to protect wind power stations) and NetMan, which have huge potential in services focused data exploitation.

In Belgium, Sogeti has developed a new service initiating a security operations centre that incorporates analytics engines such as SIEM.

In Spain, Innovalia will provide a storage solution offered as a service, with the prospect of analytics as a service, in the longer term.

In Turkey, Turkcell is integrating external data owners with their own data, to provide new services for corporates while manufacturers of household items, electricity retailers and maintenance companies are among the short to mid-term exploitation targets.

The impact among the Korean participants can be expressed in terms of promoting data-driven decision in trust, a new service model for applying big data, improved positioning in the ENS market and a new service for IT operation.

The CAP project has created a bigger picture of real-time big data by delivering a powerful easy-to-use service platform, which engenders new value-added services and new business models. While corporate companies are short to mid-term targets, end user services have a huge potential in the long term. The strong CAP consortium has created an impressive list of tangible results with useful Big Data solutions in various industries, which open the door to extensive practical utilisation of Big Data.

## MAJOR PROJECT OUTCOMES

### Dissemination

- Guidelines on data sharing and the open source approach, new Datasets Metadata Taxonomy for sharing datasets and a Charter for tenants sharing data
- 19 participations at conferences and fairs e.g. Metromeet '14+'15, Control Fair '14+'15, Security China '14, IEEE ISM'14, 2015 SECON, iCACT 2015, IEEE Globecom, Turkcell Big Data Workshops and Hackaton

### Exploitation (so far)

- New Products: OpenBouquet Data analytics platform
- New Services: Data-driven security-as-a-service
- New Systems: Several systems for data-driven optimisation of business processes

### Standardisation

- Data Model Standardization Report: dealing with
  - a) meta-data
  - b) multitenancy
  - c) deployment model
- Proposal of a new work item on Tenants Data Sharing Charter in ITU-T: Developed a Charter (rules of engagement) for tenants sharing data, and submitted it as a to ITU-T. This 'living document' could be developed with wider industry contributions.

### Spin-offs

- Potential spin-off LAMANE

ITEA is a transnational and industry-driven R&D&I programme in the domain of software innovation. ITEA is a EUREKA Cluster programme, enabling a global and knowledgeable community of large industry, SMEs, start-ups, academia and customer organisations, to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.

## CAP 12010

### Partners

#### Belgium

Amplidata  
Picanol  
SIRRIS  
Sogeti Belgium

#### Finland

Absent  
Flo Apps  
Moventas Gears  
Netman  
VTT Technical Research Centre of Finland

#### France

Ernst & Young Advisory  
Institut Mines-Télécom  
La Poste  
Squid Solutions  
Thales Communications and Security

#### Republic of Korea

ETRI  
Feelingk Co., Ltd.  
INNODEP INC.  
Mobigen Co., Ltd.

#### Spain

DATAPIXEL  
Asociación de empresas tecnológicas  
Innovalia  
Instituto de Medicina Genómica  
Unimetric  
Universidad Politécnica de Valencia (UPV)

#### Turkey

CTech  
Ericsson Arastirma ve Gelistirme Hizmetleri  
KoçSistem Information Communications Services  
Turkcell Teknoloji

### Project start

November 2013

### Project end

October 2016

### Project leader

Bülent Kirval, Turkcell Teknoloji

### Project email

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### Project website

<http://www.itea2-cap.eu/>