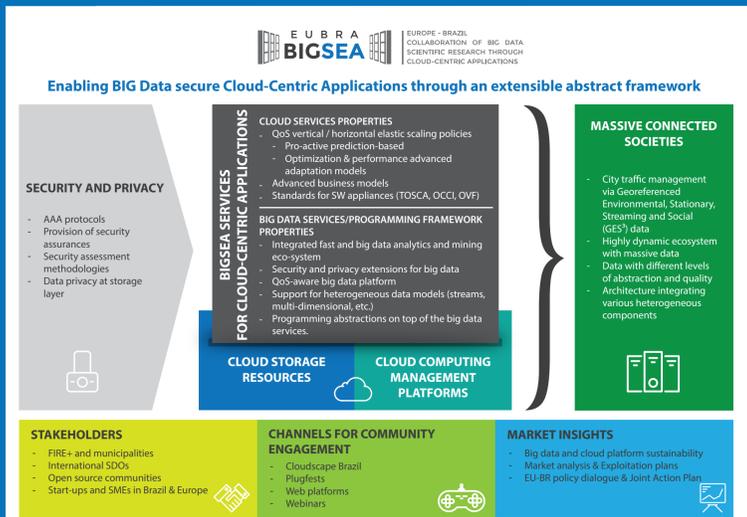


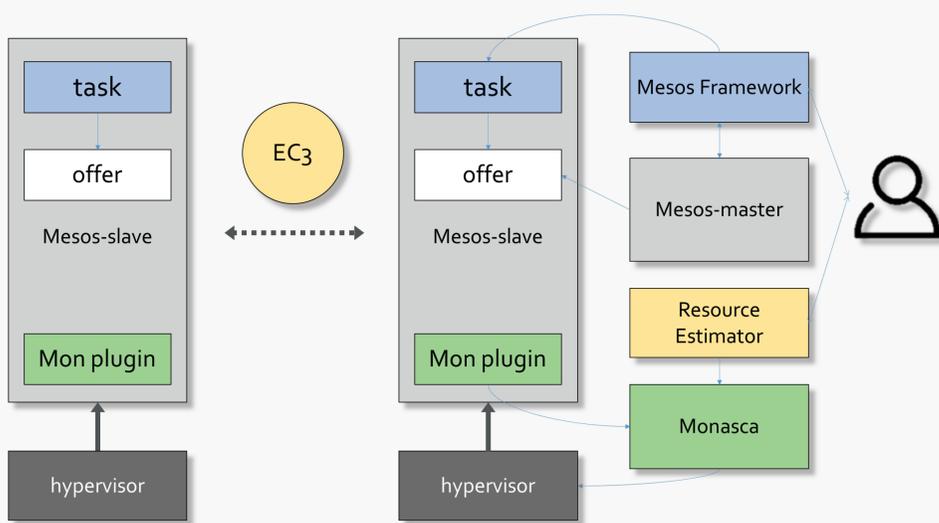


EUBra-BIGSEA specific objectives

- The development of **advanced cloud services** to support **Big Data**.
- The development of innovative **Big Data services** for capturing, federating and annotating large volumes of data.
- The use of **innovative** and **efficient** technologies for guaranteeing the fulfilment of the **security** and **privacy** policies.
- The **transfer** of this technology to a **real user scenario** with high social and business impact, and of high interest for both EU and BR.
- The **dissemination** and subsequent **uptake** of the results and identification of business opportunities.



Life Cycle and Results



- Predictive policies** estimate the resources required by an application to execute within a given **deadline**, by modelling different application components.
- Automatic horizontal elasticity** at the level of the resource allocation provide the execution framework with the resources requested, by booting up / down new slaves in a Mesos cluster.
- Proactive policies at the level of the VM** adjust the allocation of the CPU cap by the underlying hypervisor using a fine-grained monitoring system.
- Proactive policies at the level of the framework** increase or reduce the allocation of resources when the proactive policies at reach the maximum CPU level.

Main Components

- BIGSEA Resource estimator, a service that uses Spark execution logs to characterize the execution of Spark applications and predict the response time for a specific configuration.
- BIGSEA Proactive policies (github.com/bigsea-ufcg), a service for the monitoring of Spark applications and the actuation to change the CPU cap to speed-up/down jobs.
- CLUES (www.grycap.upv.es/clues) system for booting up / down working nodes in a Mesos cluster according to the resource allocation requests.
- EC3 (www.grycap.upv.es/ec3) for the reconfiguration of cluster nodes.
- IM (www.grycap.upv.es/im) for the dynamic configuration and deployment of the cluster nodes.
- MONASCA for the monitoring of the execution and resource consumption.
- Apache Mesos for the management of the resources where the applications are deployed.



See video demo: <https://goo.gl/dILDXT>

www.eubra-bigsea.eu/



To find out more visit

www.eubra-bigsea.eu



Any updates you'd like to share with us, get in touch at

contact@eubra-bigsea.eu



Stay in touch on Twitter

[@bigsea_eubr](https://twitter.com/bigsea_eubr)



Join us on LinkedIn

<https://be.linkedin.com/in/eubrabissea>