FONDAZIONE BRUNO KESSLER

CREATE-NET

FET Innovation Launchpad

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ROMA

(ID: 754514)

(Resource AuctiOning Engine for the Mobile Digital MArket)

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From FET to Launch-Pad

Starting point: FET Proactive

- FET Proactive Carrier Project: CONGAS: "Dynamics and COevolution in Multi-Level Strategic INteraction GAmeS"
- FP7 317672, started in 2012

Timeline and Coincidences:

1. CONGAS project: ended in 2015
2. SESAME: parallel projects on H2020 ICT (SESAME H2020 project) on 5G networks (first phase)
3. My lab in CREATE-NET/FBK: repositioning in Fog computing

IDEAS: combine 5G emerging technology (SESAME) and network economics (CONGAS) and build critical mass with other activities (2016)

Outcome (2019): ROMA project activities have been fueling the FogAtlas Platform towards its maturity (18 months, *single partner*)

FogAtlas (evolution of the former Foggy platform) is a software framework aiming to manage a geographically distributed and decentralized Cloud Computing infrastructure providing computational, storage and network services close to the data sources and the users, embracing the Fog Computing paradigm. FogAtlas is able to manage the so called Cloud-to-Thing Continuum offering service-aware workload placement and zero-touch provisioning. It is an evolution of the well known paradigms of IaaS and PaaS adding the concept of "locality" to the traditional Cloud Computing model and easing the operations of a Fog Computing infrastructure.

FogAtlas relies on Open Source technologies like OpenStack, Docker, Kubernetes, Ansible, Grafana and OpenVPN.

CLOUD COMPUTING BECOMES DISTRIBUTED AND DECENTRALIZED

Nowadays Cloud Computing is a well consolidate technology offering a variety of services and functionalities to customers operating in different verticals willing to get on-demand computational resources through a convenient pay-as-you-go model. Cloud Computing (i.e. the Public Clouds) is by its nature "centralized": huge amount of resources are concentrated in few big data centers so as to increase the operational efficiency and to lower the complexity of the architectural solutions.

Platform Website: https://fogatlas.fbk.eu

Structure of the proposal (1/2)

Usual triplet: Excellence, Impact, Implementation

Excellence:

1. Clarity and quality of the innovation idea and its link with the FET project
   - *describing the ROMA customers/market*
   - *why ROMA needed EU seed money*
2. Concreteness and pertinence of the objectives
   - *Preliminary business analysis*
3. Concept and methodology
   - *Niche market identification for MEC*
   - *Implementation of the pricing and billing modules*
   - *Show-casing*
   - *Patenting or licensing*

Impact:

1. Expected Impacts: *port economic concepts developed for complex systems into the mobile digital market*

Structure of the proposal (2/2)

Usual triplet: Excellence, Impact, Implementation

Implementation:

1. Quality and efficiency of the implementation
   - *travel budget to meet industry representatives*
   - *subcontracting of a patent attorney*
2. Resources to be committed:
   - *inkind resources (platform)*
   - *juniors to do the implementation*

Why it made through (my opinion)

Preliminary results:

1. Several publications after the project CONGAS and related to 5G (SESAME) have been produced and cited in the proposal
2. Fog-computing platform already running +publications related to it

Innovation: repositioning of the center, we wanted a platform to be implemented with the idea of possible "product" and to use it in further projects or with potential customers

Experience: I was previously involved in industrial/innovation oriented projects

Caveat: if there is something written in the proposal (e.g., IPRs, TRLs), then of course that is accountable …

Interim Evaluation Questions (1/2)

Q1: How does the 'innovation' provide sustainable competitive advantage

- the answer is really of economic/business nature

Q2: What are the core strengths and gaps in the team and how are these gaps being addressed

- it is probably one of the common weak points, i.e., a research team and an innovation team are basically two different things

Q3: Timeframe & pathway towards commercialisation of the 'innovation'

- again, the answer is really of economic/business nature

Interim Evaluation Questions (2/2)

Q5: Main risks in the path to commercialising the 'innovation' and how are the risks being mitigated

- actually, I forgot risk analysis in the proposal, and I have been asked to add that part before the DOW redaction
- risks are related not to the risk of research but to the technology transfer

Q6: Progress made towards identifying markets

- expertise here is not obvious

+

Q7: Major findings & preliminary results achieved

- technical question

Final Review

ROMA was remotely evaluated in February/March 2019

- the project was well received, nevertheless there have been some specific dynamics along the way, some of them listed below.

1. **IPRs proved not easy to handle and to maintain**
   - this is a common issue for many coordinators
   - not really on the pathway of FBK at the time of project implementation

2. **Business units for technical discussion are difficult to reach**
   - we had meetings, but for us usually it boiled down to either research staff (Big companies) or management persons (SMEs)

3. **FOG/MEC was a very early technology in 2016**
   - probably the right moment is right now

4. **Publications**
   - still very welcome