

H2020 FIESTA: Federated Interoperable Semantic IoT/cloud Testbeds and Applications

Program/Call Reference, Strategic Priority, Grant Agreement Number, Project Type

H2020-ICT-2014-1 2014.ICT11.a FIRE+ RIA (Future Internet Research Experimentation), Grant agreement no: 643943

Project Summary

The Internet-of-Things (IoT) provides exciting opportunities for researchers and innovators, who can leverage data and services from numerous internet connected devices in order to build novel products. In this context researchers take advantage of their own IoT experimental infrastructures (i.e. testbeds), yet they are not provided with easy ways of sharing and accessing resources across multiple testbeds. In order to remedy this limitation, the FIESTA-IoT project (<http://fiesta-iot.eu/>) develops and provides a novel platform for IoT Experimentation as a Service (EaaS), which allows researchers and experimenters to define and execute data-intensive experiments on top of heterogeneous sets of IoT testbeds.



The FIESTA-IoT experimental infrastructure enables the aggregation of data streams and services from diverse IoT platforms (or testbeds) according to a common standards-based data model, namely the FIESTA-IoT ontology. Moreover, FIESTA-IoT specifies an infrastructure agnostic testbed provider interface (TPI), which allows testbed providers to integrate their infrastructures with the FIESTA platform. Based on the FIESTA TPI and IoT ontology, the project ensures interoperability across diverse testbeds, while making their data and services available to experimenters in

testbed-agnostic manner. Hence, the FIESTA-IoT EaaS model enables experimenters, developers and innovators to design interoperable, testbed agnostic applications, such as applications that are able to extract meaningful knowledge from sensor data that are captured from diverse IoT infrastructures. In practice, this facilitates the design and deployment of smarter IoT applications and experiments.

The FIESTA infrastructure is characterized as a meta-Cloud or meta-testbed, which intercepts information and services from multiple IoT testbeds. This meta-Cloud infrastructure is supported by a registry of IoT resources, which enables experimenters to dynamically select and access the resources that they need for their experiments. Moreover, FIESTA provides a set of user-friendly interfaces for defining, implementing and deploying experiments, with minimal or even zero IoT programming effort.

Project Starting Date and Duration / Total Cost – Total EU Contribution

01/01/2015, 36 months / 5.484.662 € - 5.135.287 €

AIT's Role / Principal Investigator/ AIT's, EC Funding

Project Partner/ Prof. John Soldatos (jsol@ait.gr) & Nikos Kefalakis (nkef@ait.gr) / 254.063 €

Consortium Partners

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