Digital Twins SIG

The Digital Twin Project

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The ambition of the Digital Twin project is to validate an IoT approach that is compatible with a Blockchain architecture and running on the edge of a distributed cloud environment for a smart energy “System of Systems” (integration of different categories of Intelligent energy devices -IEDs – and energy management platforms).

The major benefits of building a Digital Twin representation of an energy system is in creating a symbiosis between entities representing real and digital world objects connected via standard APIs and characterized by properties, describing the context in which they operate and use assumptions to simulate their behaviors for different purposes.

The integration of the different data sources to design the representation of the virtual twin is the result of a System of Systems architecture, leveraging on Extensibility (new systems can be added easily), Replaceability (systems can be replaced), Loose coupling (systems can evolve independently), Low intrusiveness (systems do not need to change) and Recursiveness (systems of systems at different levels)

The Digital Twin project will leverage on the NGSI-LD API, a public, royalty-free standard API for Context Information Management standardized by ETSI and already deployed in multiple Open Source implementations available in the FIWARE Foundation’s catalogue.

Useful links

- Data Oriented System of Systems Architecture for Energy link
- FIWARE smart-data-models space on GitHub

Agenda for July 8th workshop:

1. Introduction to Digital Twin
2. Use Cases & user story mapping
3. Technology choices