CHOReVOLUTION

Automated Synthesis of Dynamic and Secured Choreographies for the Future Internet

The CHOReVOLUTION project aims to innovate with a flexible and scalable computing environment for the Future Internet, the Internet of Things and Smart Mobility. This will be done through a decentralized approach, based on service choreography.

A large diversity of connected devices and smart objects is being engaged in collaborative tasks triggered by citizens, smart grids, smart cities, local governments, transportation, energies or industrial businesses.

The CHOReVOLUTION project intends to procure the methods and tools required to automatically compose and dynamically coordinate heterogenous software services.
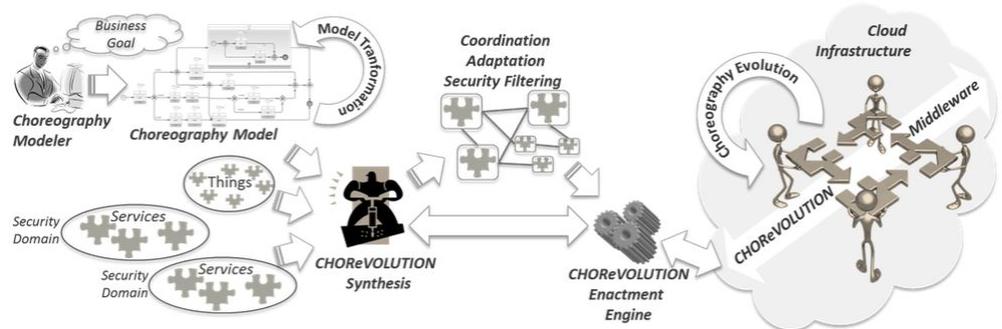
To address scalability and interoperability challenges in such large systems, the project is leveraging the CHOReOS IDRE (integrated runtime and development environment). It will also integrate new cloud security mechanisms and a service bus to form an innovative technology platform.

This platform will be validated through two industrial use cases in the domain of Intelligent Transport Systems.

The main outcomes of the project are:

✔ A flexible CHOReVOLUTION middleware adding value in both business and IoT services

✔ New modeling notifications to assess the evolution points of a choreography and new service operational profiles for each role

✔ Synthesis techniques with dynamic adaptation at run-time

✔ Secured choreographies and identity management mechanisms

✔ A collaborative implementation with an integration platform

✔ Two industrial use cases in the area of Intelligent Transportation Systems validating the collaborative design platform

✔ A CHOReVOLUTION community, partnerships within and outside the consortium, to create the conditions for a market take-up

The CHOReVOLUTION Decentralized Approach

The results of CHOReVOLUTION will be open source licensed and supported by the OW2 community under its Future Internet Software and Services initiative (FISSi).

CHOReVOLUTION is developed by a consortium of eight partners bringing together excellence for research, innovation, education and industrial partnerships.

CHOReVOLUTION Project Partners:

Cefriel, Inria, OW2, Softeco, Thales, Tirasa, Univaq, Viktoria