PROJECT: FLUIDOS

Subproject: TARGET

Fluidos is an EU project funded by European commission (EC) with Grant Agreement no 101070473 (www.fluidos.eu).

FLUIDOS (Flexible, scaLable, secUre, and decentralIseD Operating System) aims to leverage the enormous, unused processing capacity at the edge, scattered across heterogeneous edge devices that struggle to integrate with each other and to coherently form a seamless computing continuum.

On February 29, 2024, FLUIDOS successfully concluded its 1st Open Call, receiving a total of **49 applications from applicants across Europe**. After a careful selection process, a group of 10 projects were chosen: 5 to be funded with the Technology Extension grant and 5 with the Use Case grant.

Meditech and Datonix hanno partecipato in consorzio alla Open Call 1 lanciata da Fluidos, risultando vincitori con il progetto TARGET.

Meditech and Datonix participated as a consortium at the Open Call 1,and wer awardee as one of the winning Teams with the **TARGET** project.
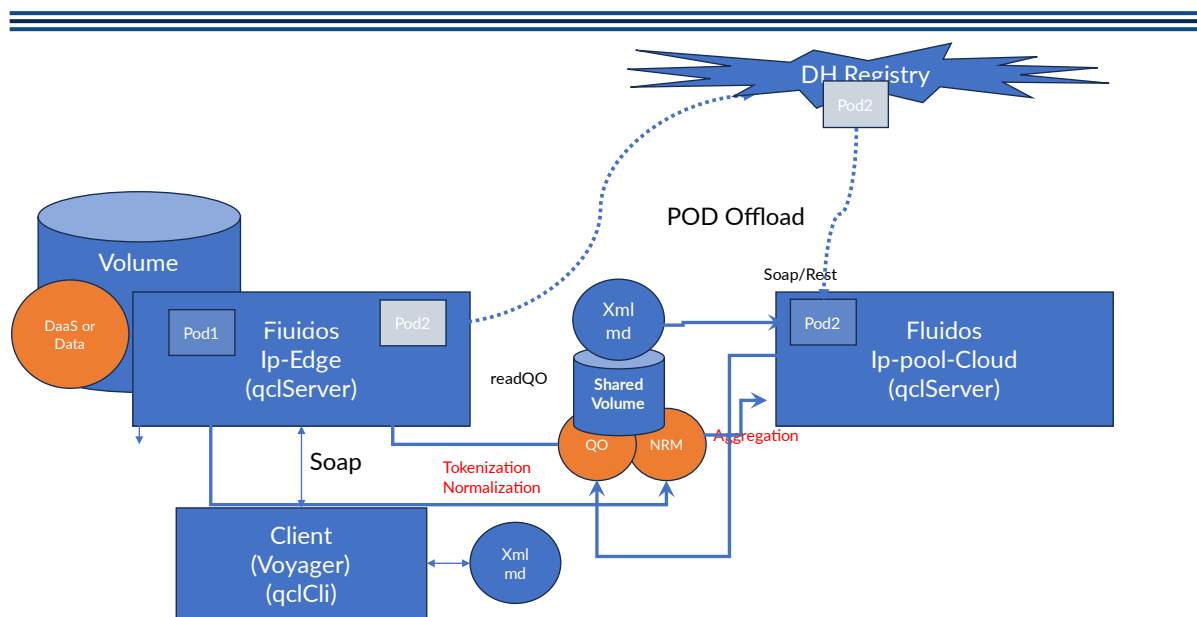
As part of the first FLUIDOS Open Call, the TARGET project (in**T**elligent d**A**ta p**R**ocessin**G** th**E** con**T**inuum) used Fluidos infrastructure for empowering an Edge-level application by enabling Cloud resources to perform some of the steps of the processing tasks the application has to perform on Edge-generated Data without moving sensitive data from the Edge itself.

The Edge-level application used a DMSA (Data management system for Analytics) called QueryObject, developed and owned by datonix Srl. QueryObject performs some I/O demanding and CPU demanding processes on the data.
These demanding processes can overload the Edge itself and the lack of resources at the Edge-Level hampers to scale-up the application.

The possibility to Offload PODs on a Cloud environment given by Fluidos has enabled the scaling up and optimizing these activities through the architecture below:

TARGET architecture

DH Registry
Pod2

POD Offload

Soap/Rest

Volume

DaaS or Data

Pod1   Fluidos Ip-Edge (qclServer)   Pod2

readQO

Xml md

Shared Volume

Pod2   Fluidos Ip-pool-Cloud (qclServer)

QO   NRM

Aggregation

Tokenization Normalization

Soap

Client (Voyager) (qclCli)

Xml md

Some processes (Access, Load, Normalize/Tokenize, Compress, Generate/Update Normalized file) are executed at Edge-level (on POD1), then the NRM file is moved on a Shared volume and then other processes (Read Normalized data, Aggregate, Write Aggregated data) can be performed both at the Edge-Level or at Cloud-Level depending on the POD2 (if it has been offloaded or not).