

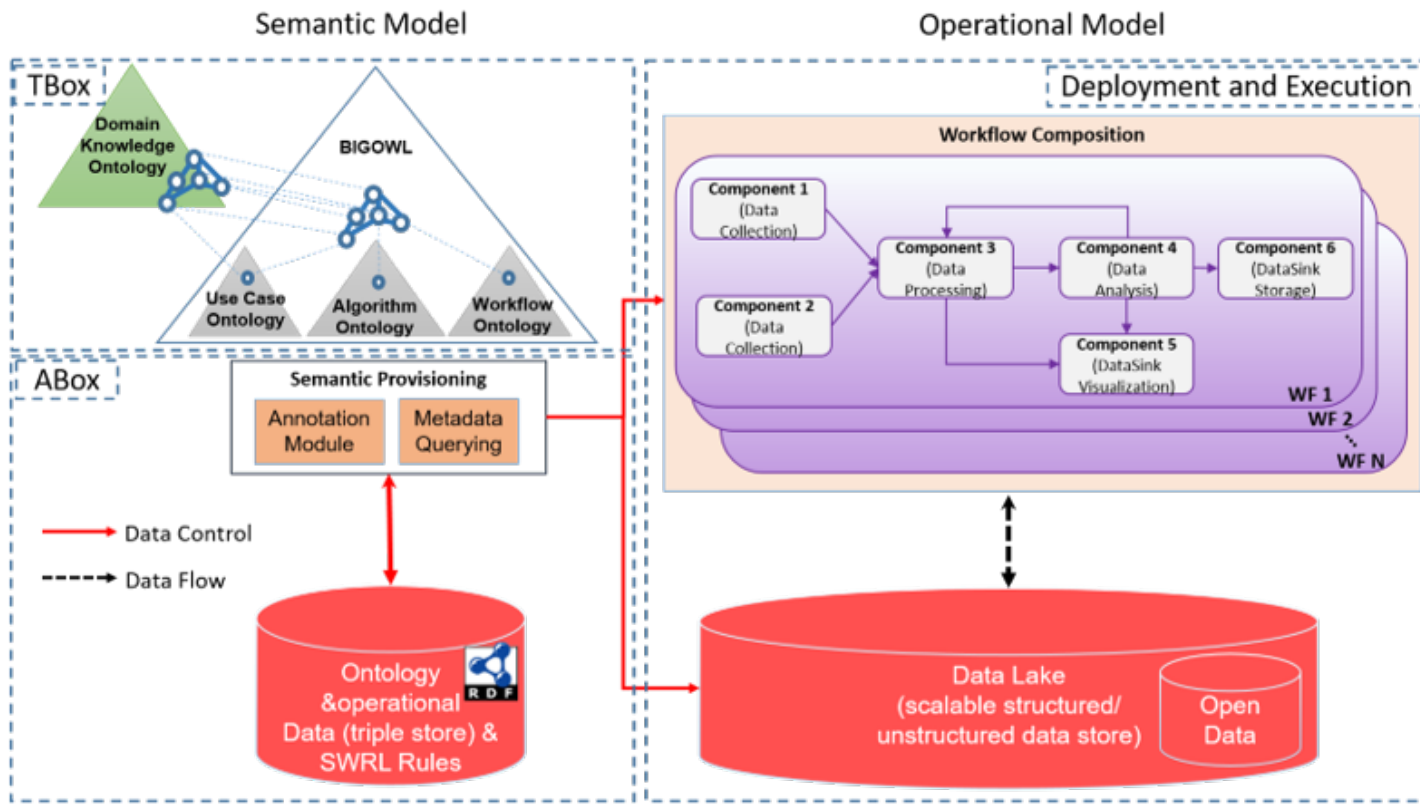
Round Table 5: IJI e-services and disruptive technologies for NIS research session

Dr. José F. Aldana Montes

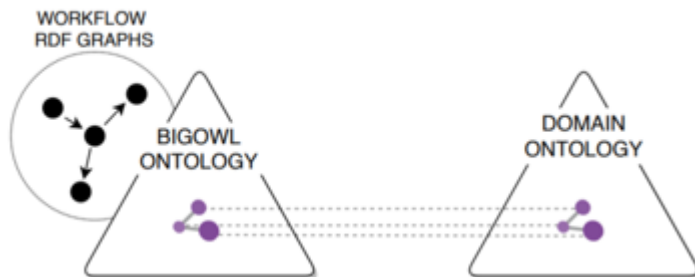
University of Málaga - LifeWatch ERIC ICT Core

Semantics

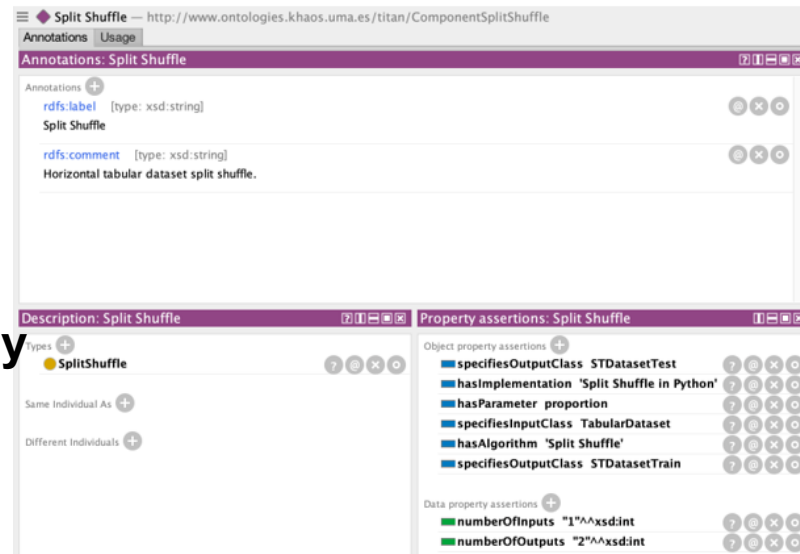
BIGOWL



BIGOWL



LifeWatch Ontology



Split Shuffle — <http://www.ontologies.khaos.uma.es/titan/ComponentSplitShuffle>

Annotations Usage

Annotations: Split Shuffle

Annotations +

rdfs:label [type: xsd:string]
Split Shuffle

rdfs:comment [type: xsd:string]
Horizontal tabular dataset split shuffle.

Description: Split Shuffle

Types +

SplitShuffle

Same Individual As +

Different Individuals +

Property assertions: Split Shuffle

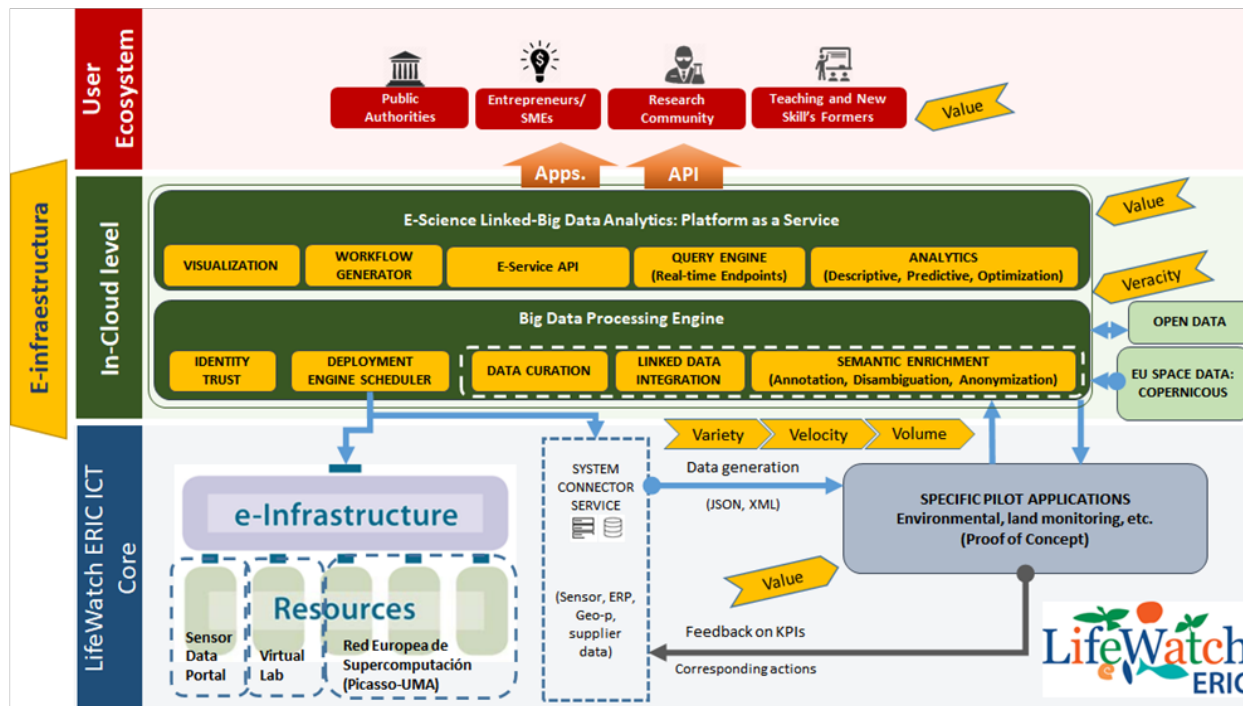
Object property assertions +

- specifiesOutputClass STDatasetTest
- hasImplementation 'Split Shuffle in Python'
- hasParameter proportion
- specifiesInputClass TabularDataset
- hasAlgorithm 'Split Shuffle'
- specifiesOutputClass STDatasetTrain

Data property assertions +

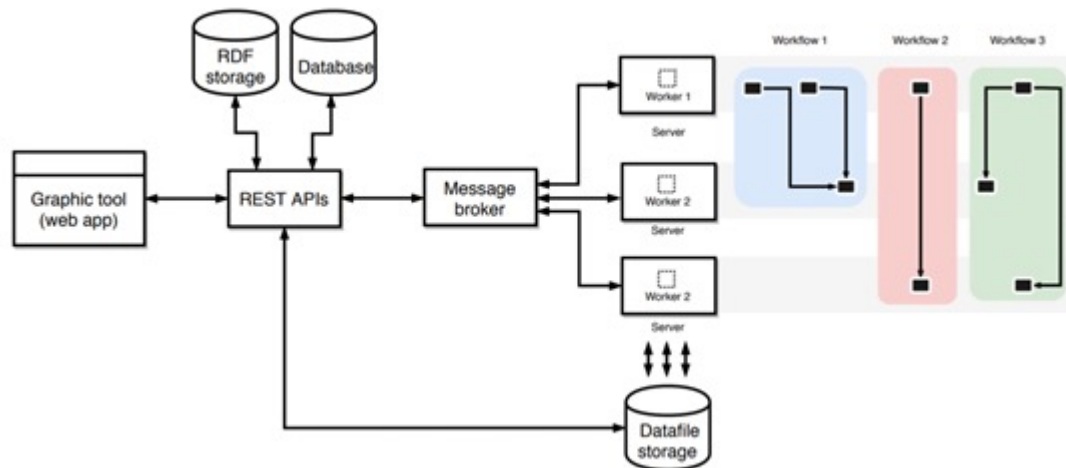
- numberOfInputs "1"^^xsd:int
- numberOfOutputs "2"^^xsd:int

Big Data, IoT, Supercomputing



TITAN

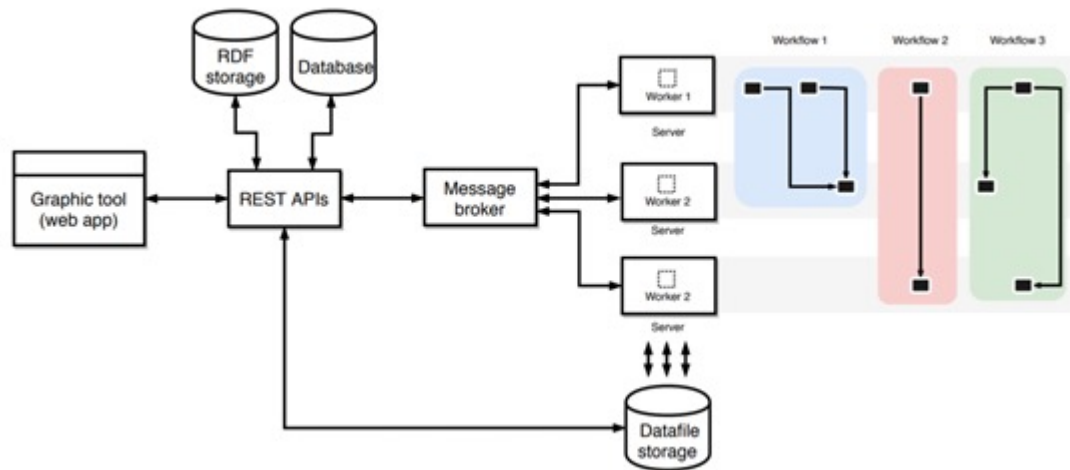
Core TITAN platform's architecture is composed of a **Graphical user interface**, a **REST API** and an **orchestrator** for executing the workflows.



TITAN: A knowledge-based platform for Big Data workflow management. Knowledge-Based Systems. Under Review.

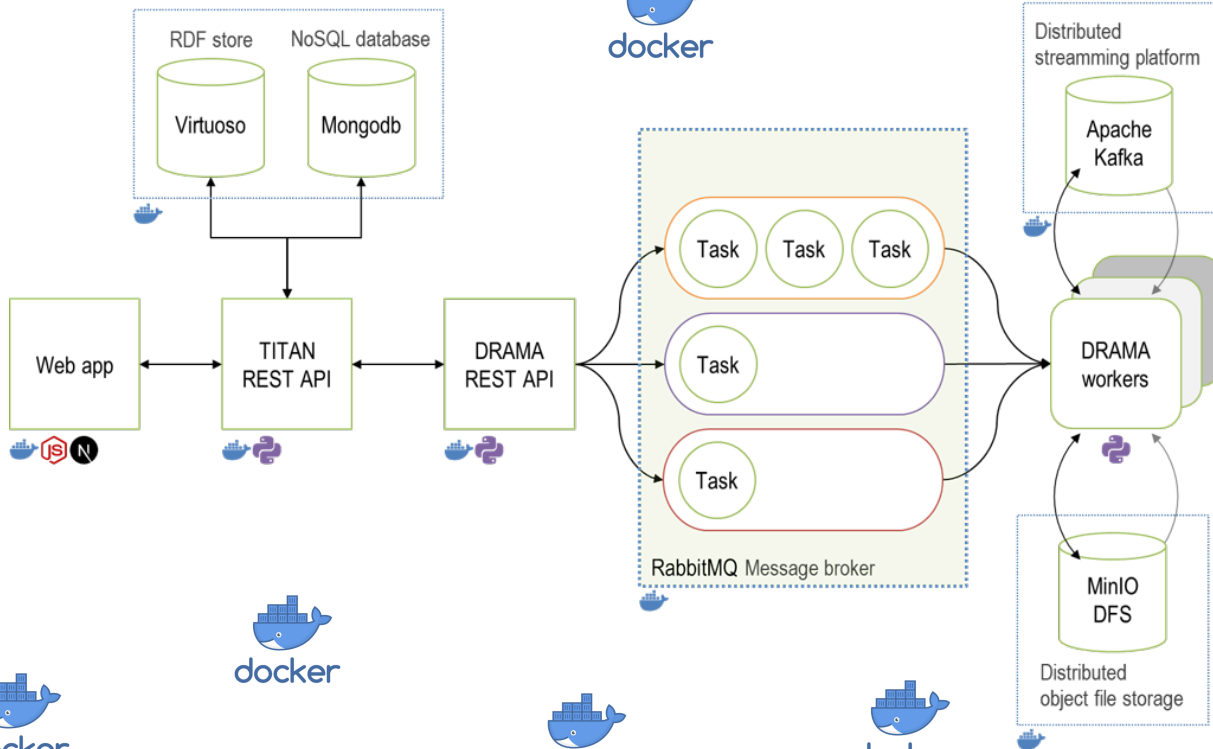
TITAN

The REST API requires **RDF storage** and **database** solutions for data persistence. Besides, workflow executors also depend on remote data file storage for storing component's outputs. Finally, a **message broker** (**Kafka**) is used for distributing messages between the components



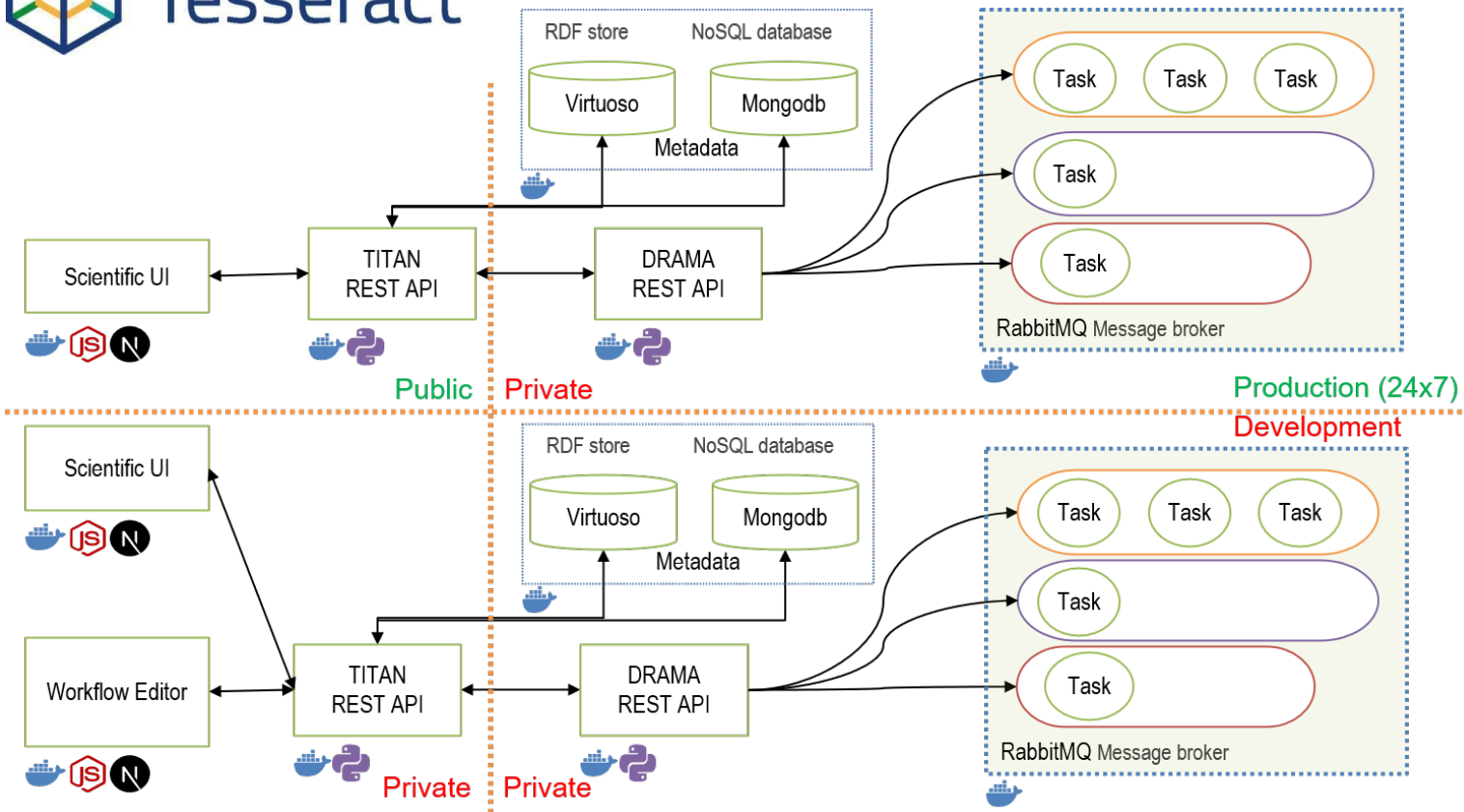


LifeWatch ERIC
Tesseract



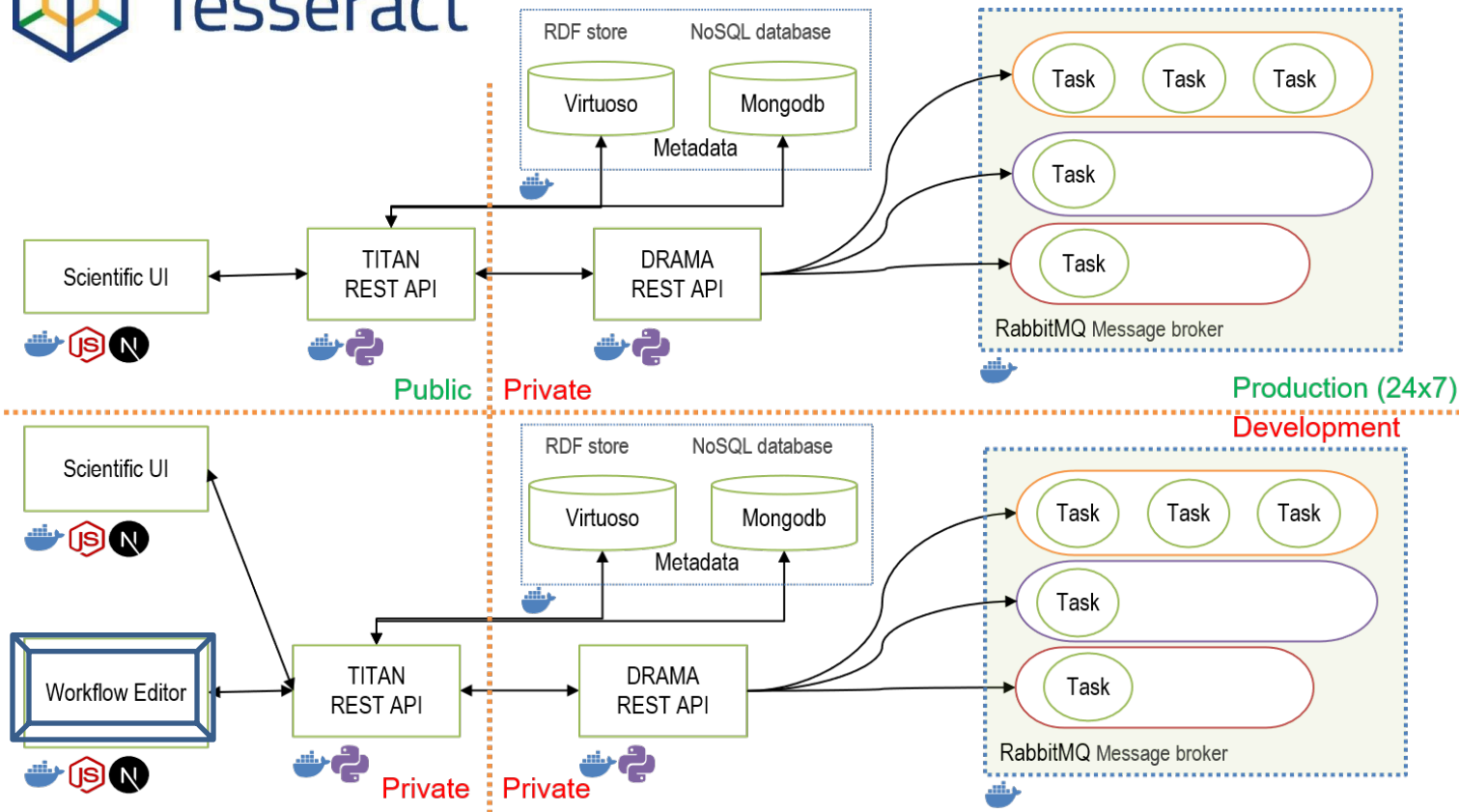


LifeWatch ERIC
Tesseract



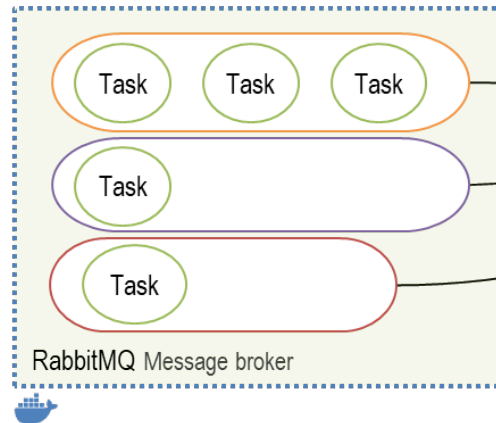


LifeWatch ERIC
Tesseract

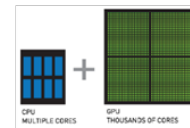
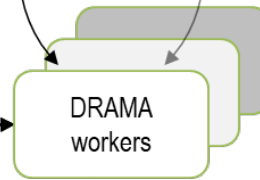
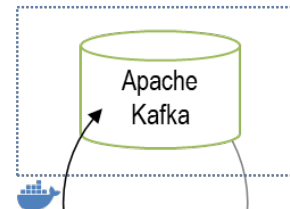




LifeWatch ERIC
Tesseract



Distributed
streaming platform



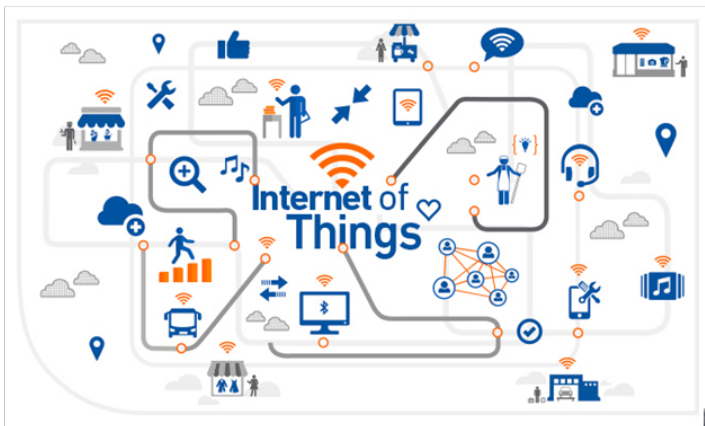
Large Data Storage
(1PB)



Distributed
object file storage



Development



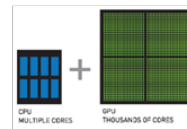
TITAN
REST API

Distributed
streaming platform

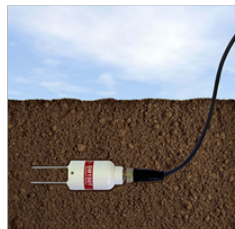
Apache
Kafka

DRAMA
workers

Data
(MinIO
DFS)



Distributed
object file storage



Large Data Storage
(1PB+)



Thanks!

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