



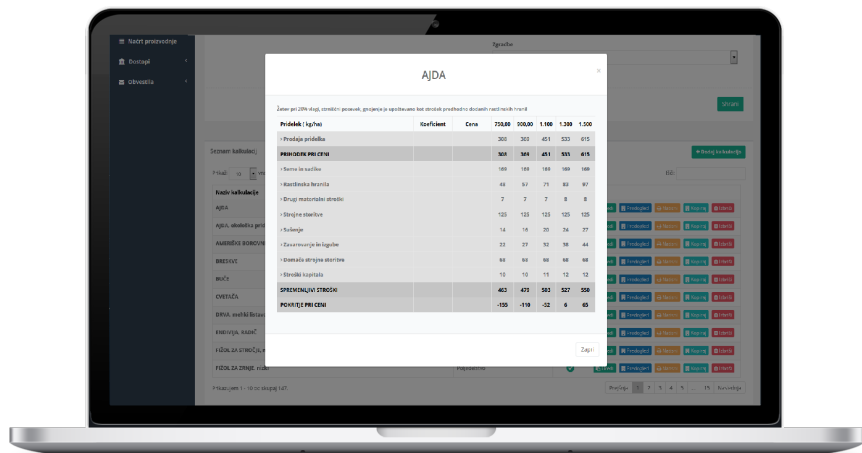
FARMSENS

Integration of Sensory Information into the Farm Management Platform

Uros Zizek (Project Manager at TELESIS)

FEC3

Paris, March 14-16, 2018



What is FARM MANAGER

CLOUD-BASED SOLUTION FOR FARM MANAGEMENT AND PLANNING OF OPERATIONS

Objectives of experiment

STAGE 1

- to ensure technical conditions on the side of testbed resources (IoT sensors) and Farm Manager
- to execute live test run of data exchange between the sensors and our platform, using at least 5 different types of sensors.

STAGE 2 (NOT SELECTED)

- to scale-up the experiment and analyse the data
- to test the performance and scalability

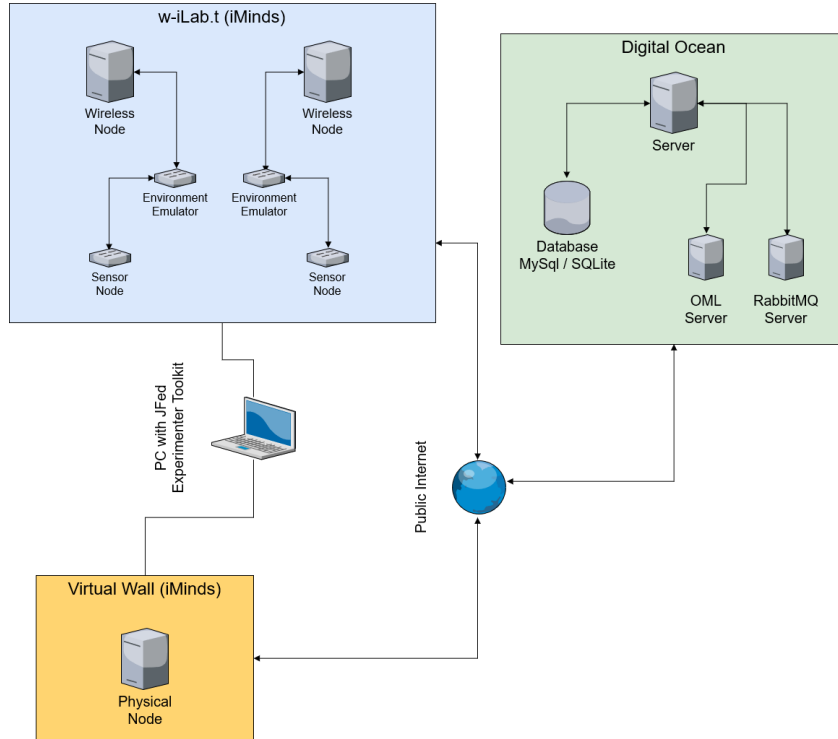
Background & motivation

STRATEGY OF THE COMPANY

- Always aiming at improving our products
- Introduce IoT technology in the Farm Manager
- Provide highly value-adding products
- Gain knowledge and expand to other areas

Set-up of the experiment

Farmsens (Testing) Architecture



Testbeds side:

- w-iLab.t (zotac nodes)
- Virtual Wall (physical nodes)

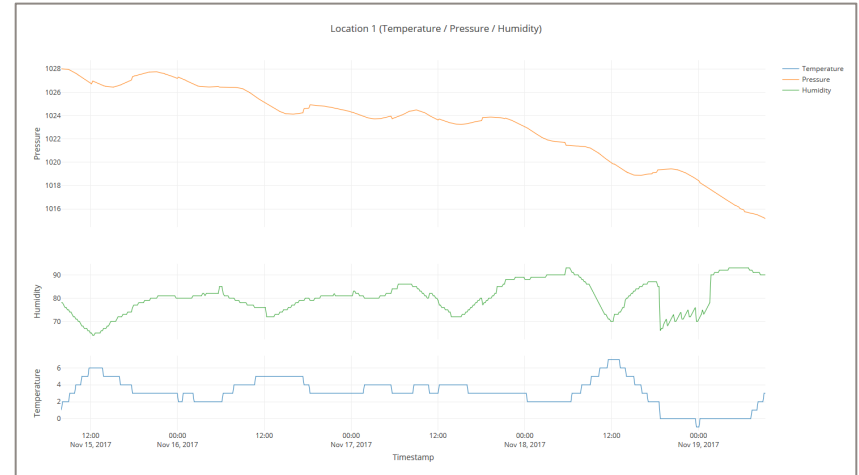
Product side:

- DigitalOcean (VM)

Results of the experiment

Experiment was running live for 4 consecutive days:

- 5 types of sensors (nodes) used
- 6 types of measurements
- total 3504 sensory data collected (584 per each type of measurement)
- we exported data and made simple chart visualisation of them using online tool Plotly



Location 1 (Temperature, Pressure, Humidity)

Conclusion & lessons learned



- Objectives were successfully completed
- We learned about the IoT sensors and integration of sensory data into our farm management platform
- We gained information about feasibility and prepared for the Stage 2

Business impact (1/4)

GENERAL IMPACT ON THE BUSINESS AND PRODUCT

- FARM MANAGER is offered through a SaaS model
- Calculations have based on a pre-defined formulas defined by agriculture expert (no IoT involved)
- Integration of sensory information improves calculations (also in real-time)
- Better product, higher added value
- More competitive in the market

Business impact (2/4)

VALUE PERCEIVED

- Mainly collected information about the possibility of integrating sensory data into FM
- What to do/change in the Stage 2
- We learned about the testbeds and other Fed4FIRE+ tools (such as jFed, portal..).

Business impact (3/4)

WHY WE CHOSD FED4FIRE+

- Great testbed facilities and technical support
- We don't have such facilities in our labs
- Financial support – funding
- We couldn't do it without help of Fed4FIRE+!

Business impact (4/4)

FOLLOW-UP ACTIVITIES (COMMERCIAL, R&D)

- Scale-up the experiment (more sensors, longer period)
- Integrate sensory data from real fields
- Improve calculations with a predictive model
- Real-time data overview
- Push to market & expand to other industries if possible

Feedback to the federation (1/4)

USED TESTBEDS & TOOLS

- Virtual Wall (1 physical node)
- W-iLab.t (2 wireless nodes – zotac)
- Fed4FIRE+ portal
- jFed
- Documentation & examples



Feedback to the federation (2/4)

ADDED VALUE OF FED4FIRE+

Most valuable components of Fed4FIRE+ are (in the order from highest to lowest importance):

1. Testbed facilities and resources
2. Documentation and tutorials
3. Tools offered

Feedback to the federation (3/4)

WHAT'S MISSING / WHAT COULD BE BETTER?

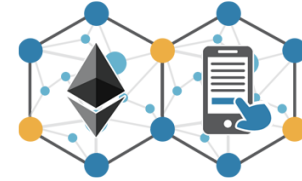
Hardly find some actually, but here they are:

- more practical examples of experimenting with zotac nodes and sensors attached to them
- pre-installed scripts on the nodes
- jFed is Java-based (we prefer web-based – subjective opinion)

Feedback to the federation (4/4)

OTHER FEEDBACK

- Testbeds should be offered to SMEs regardless of the funding
- Blockchain testbeds would be interesting
- FEC events are great & very helpful



Thanks to the experiment we conducted within Fed4FIRE+, Telesis made one step closer with Farm Management platform to be integrated with live sensory information and provide improved predictive farm calculations.



Co-funded by the
European Union



Co-funded by the
Swiss Confederation

This project has received funding from the European Union's Horizon 2020 research and innovation programme, which is co-funded by the European Commission and the Swiss State Secretariat for Education, Research and Innovation, under grant agreement No 732638.

WWW.FED4FIRE.EU