Road2CPS Future Platforms Workshop
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http://fiware.org
http://lab.fiware.org

Nuria de Lama
ICT Program Manager; Atos Research & Innovation
FIWARE Collaboration Officer
nuria.delama@atos.net
Today you will learn about

- FIWARE: the Open Platform to develop your Internet business
- The FIWARE Accelerator Programme
The Future Internet Programme (FI PPP)
Understanding FIWARE (Open Standard Platform) (advanced OpenStack-based Cloud + rich library of Generic Enablers)
<table>
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<tr>
<th>Section</th>
<th>Features</th>
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<tr>
<td>Cloud</td>
<td>• Federation of infrastructures (private/public)</td>
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<td></td>
<td>• Automated GE deployment</td>
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<tr>
<td>Data/Services Delivery</td>
<td>• Complete Context Management Platform</td>
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<td>• Integration of Data and Media Content</td>
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<td>IoT</td>
<td>• Easy plug&amp;play of devices using multiple protocols</td>
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<td>• Automated Measurements/Action ➔ Context updates</td>
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<tr>
<td>Apps</td>
<td>• Visualization of data (operation dashboards)</td>
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<td>• Publication of data sets/services</td>
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<td>Web UI</td>
<td>• Easy incorporation of advanced 3D and AR features</td>
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<td>• Visual representation of context information</td>
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<td>Security</td>
<td>• Security Monitoring</td>
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<td>• Built-in Identity/Access/Privacy Management</td>
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<td>I2ND</td>
<td>• Advanced networking (SDN) and middleware</td>
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<td>• Interface to robots</td>
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Development of Context-Aware Applications using FIWARE

**Orion Context Broker** allows you to model, manage and gather context information at large scale enabling context-aware applications.

Connection to the Internet of Things

**IDAS IoT Agents** allow your application to easily gather context information from sensors or actuate upon physical objects.

Real time processing of Context Events

**Proton Complex Event Processing (CEP)** analyses events, e.g., updates on context, in real-time to detect scenarios where actions have to be triggered or new events are created.

Handling Authorization & Access Control to APIs

FIWARE brings a powerful framework that will allow you to setup Authorization and Access Control policies based on widely adopted Security standards (OAuth, XACML).

Publication of Context Information as Open Data

FIWARE incorporates CKAN as part of its architecture for open data. CKAN extensions allow to manage access not only to static historic data but real-time context information, as well as the management of access control rights.

Big Data Analysis of Historic Context Information

Cygnus allows you to inject historic context information records into an HDFS based storage. Big Data analysis or advanced queries can then be performed over historic data.

Creating Application Dashboards

**Wirecloud** is a web mashup platform aimed at empowering end-users, without programming skills, to easily create fully-fledged application dashboards built up from widgets, operators and other pre-existing mashups.

Real time processing of Media Streams

**Kurento** allows you to process, in real-time, multimedia information so that you can incorporate into your application extended sensing capabilities based on cameras or microphones (detecting faces, crowds, plates, ...)

Providing an Advanced User Experience (UX)

These components allow you to incorporate advanced features in your web-based user interface, such as **Augmented Reality** or 3D visualization.

Hosting your Application on a FIWARE Cloud

The **FIWARE Cloud** is an Infrastructure as a Service platform based on OpenStack, comprising the Compute (Nova), Storage (Cinder), Network (Neutron) and Image (Glance) services. All the application components running in a centralized data center can be provisioned and managed using the FIWARE Cloud capabilities.
Ecosystem and platform: two tied concepts

Open Standard Platform

Sustainable Open Innovation Ecosystem
FIWARE Lab: the “meeting point” where innovation takes place

App Customers and Data providers

• Connect to entrepreneurs
• Put their data at work
• Bring new innovative services to end users
• Be more efficient
• Social Reputation

Entrepreneurs, Developers

• Develop once for a large market
• Easily meet potential customers
• Marketing, promotion
• Ability to test with real data and end users
• Simple yet powerful APIs that accelerate product development

FIWARE Technology Providers

• “Coopetitive” approach
• Connect to entrepreneurs: jointly exploit the opportunities

FIWARE Lab
Spark your imagination

• 4.2 M€ promotion campaign
  • Campus Party events
  • Startup Weekend events
  • Chambers of Commerce
  • 870 K€ in prizes
• 100 M€ of funding devoted to entrepreneurs in phase 3 of the FIWARE program
FIWARE Lab provides access to data
Genuine FIWARE: qualitative reasons you should consider…

Open Source. Avoid vendor lock-in
You have the control

A live instance of FIWARE available to developers for free experimentation
Not only platform, tools... this is powered by data!

Going from clusters to ecosystems
Cross-fertilization between sectors; avoid silos

- Leading to a more powerful platform offering (based on common functionalities; develop once and reuse as much as you can)
- Then, translating the sectorial knowledge into domain-specific platforms

Modularity; integration with legacies
Domain-specific platforms = FIWARE + specific enablers

For you
Genuine FIWARE: qualitative reasons you should consider
FIWARE FACT SHEET

- Number of GEis: 53
- Number of downloads: 1,150,000
- Number of GEs: 43
- Number of followers on Twitter: 6866
- Number of wiki pages: 2973

Evolution of FIWARE Lab users:
- 2013: 1151
- 2014: 5788
- 2015: 8147

Number of open data sets: +2600

- 20 cities are experimenting, and a total amount of 31 cities have signed the Open & Agile Smart Cities Initiative.

Number of events where FIWARE was presented:
- March 25

Catalogue:
- Average pageviews: 2500
- Average users: 260
- Peak pageviews: 3100
- Peak users: 320

Academy:
- Average pageviews: 4400
- Average users: 380
- Peak pageviews: 7300
- Peak users: 770

YouTube channel:
- 116 videos
- 98,006 views
- 65 subscribers
Scale: Open and Agile Smart Cities Initiative

- Helsinki, Espoo, Vantaa, Tampere, Oulu and Turku in Finland; Copenhagen, Aarhus and Aalborg in Denmark; Brussels, Ghent and Antwerp in Belgium; Porto, Lisbon, Fundão, Palmela, Penela and Águeda in Portugal; Milan, Palermo and Lecce in Italy; Valencia, Santander, Málaga and Sevilla in Spain; & Olinda (Recife), Anapólis (Goiás), Porto Alegre (Rio Grande do Sul), Vitória (Espírito Santo), Colinas de Tocantins (Tocantins) and Taquaritinga (São Paulo) in Brazil have joined the OASC initiative in the first wave.

FIWARE: Commercial Support

THELONICA, ORANGE, ENGINEERING and ATOS join forces to push common standards for Smart Cities based on the FIWARE platform

The companies commit to deliver commercial offerings and provide their support to the establishment of an open source community around FIWARE.

Simple, Open, Free and standardized: enabling the new future for Smart Cities services.

Barcelona, March 3rd 2015. Telefónica, Orange, Engineering and Atos have decided to join forces and announce that they will take the initiative towards creation of the FIWARE Open Source Community to foster and support the evolution of standards for Smart Cities and their spread worldwide. It is expected that the FIWARE Open Source Community will be fully operational at the end of Q2-2015.

With the enormous growth in the number of smartphones, daily life has become digital but in cities remains very similar to how it looked like 15 or 20 years ago. The integration of Internet of Things, Cloud and Big Data technologies, together with the support of Open Data policies, will
Open source community designed to last and be open to anyone who wish to actively contribute

Final model under definition. Starting proposal based on model of the reputed OpenStack community

- Board made up of member representatives (core members + elected members):
  - Approves changes to governance model
  - Elect officer of the Foundation
- Foundation carries out Secretariat and marketing activities and owns FIWARE brand
- Technical Committee deals with overall coordination
- FIWARE Chief Architect and Lab Coordinator elected by Technical Committee
- Leader and Architect of FIWARE Chapters or FIWARE Ops elected by active contributors in chapters
- New FIWARE components can be proposed and become part of the FIWARE Core after incubation, once they gain traction among the wider community of developers and subject to approval of Technical Committee
FIWARE ACCELERATOR PROGRAMME
Supporting Web entrepreneurs, startups and SMEs

Funded by the European Union

Up to 150 K€/0% shares (equity-free!)

FIWARE Accelerate
Direct Funding, Mentoring, Coaching, Support, Networking

New applications and services
New companies
New markets

Excellent people
Excellenta ideas

http://lab.fi-ware.org
Accelerators’ Markets Targeted

Source: FI-IMPACT Elaboration of Accelerators’ Data
Find out More!

- Introduction to FIWARE
  - https://www.youtube.com/watch?v=PVS632As4Jw

- Introduction to FIWARE Lab
  - https://www.youtube.com/watch?v=MXg5L_mjCWE

- FIWARE and SmartCities
  - https://www.youtube.com/watch?v=yMPfGeGF5r8
FIWARE videos: Use Cases!

- **FI-Guardian**
  - [https://www.youtube.com/watch?v=Kn6wHouHczY](https://www.youtube.com/watch?v=Kn6wHouHczY)

- **FoneSense**
  - [https://www.youtube.com/watch?v=034qW8KsSV8](https://www.youtube.com/watch?v=034qW8KsSV8)

- **SmallSignals**
  - [https://www.youtube.com/watch?v=imkta31qjFw](https://www.youtube.com/watch?v=imkta31qjFw)
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