

FI-WARE Overview

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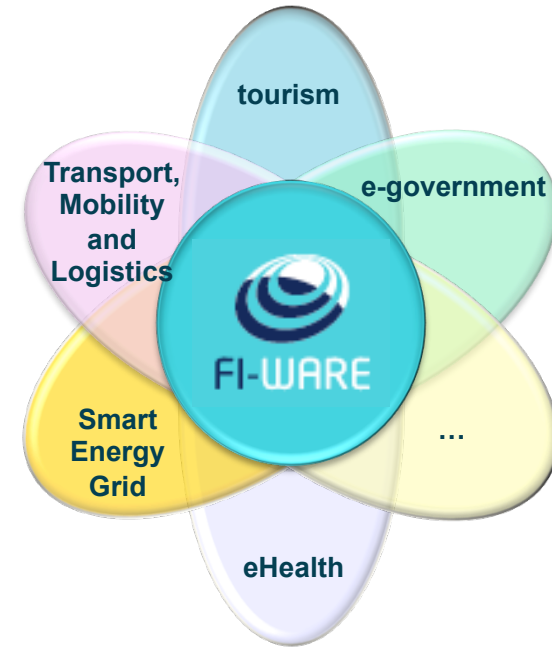
/THE FUTURE. NOW.

<http://www.fi-ppp.eu>

<http://www.fi-ware.eu>

The Future Internet Public-Private Partnership (FI-PPP)

- The aim of the FI-PPP is to place Europe in the best position to capture new opportunities in the Future Internet, derived from digitalization of economy sectors
- This requires creating an generic, open and standard platform (FI-WARE) and a meeting point (FI-LAB) around which a dynamic innovation ecosystem can be created engaging developers and entrepreneurs



EC provides half of the funding:

Pan-european dimension

Industry driven, major industry players involved

FACTS:

2x € 300 million
INVESTMENT BY THE EUROPEAN COMMISSION & PROGRAMME PARTICIPANTS

158 PARTNER ORGANIZATIONS AND COMPANIES
68% INDUSTRY SHARE IN THE PROGRAMME
18 ACADEMIC INSTITUTIONS

23
COUNTRIES REPRESENTED (2 FROM OUTSIDE EUROPE)

Open APIs for Open Minds

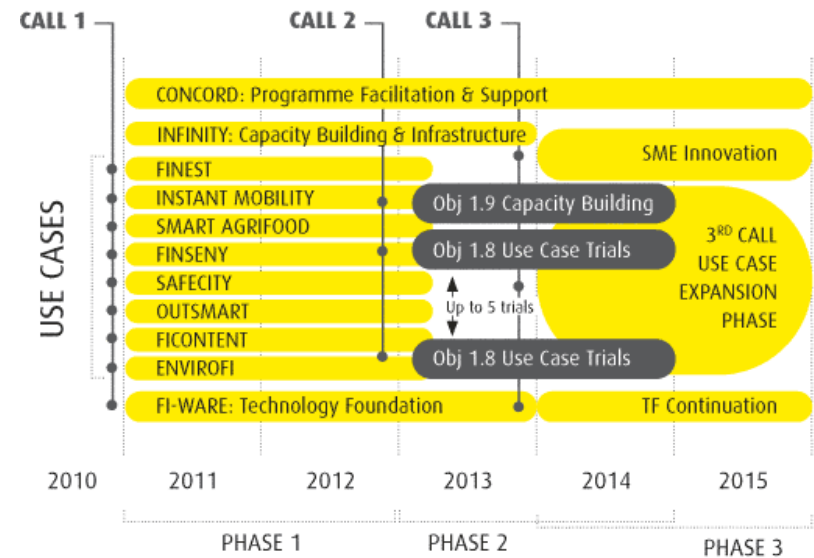


What is genuine in the FI-PPP

- **Better suited** to align with roadmap of product developments by partners:
 - Industry- and Implementation-driven approach
 - Results exploitable in the short-medium term (4-5 years) rather than in the long-term (10-15 years)

- Targeted to attract **audience beyond the research community** who will be fund to develop applications on top of FI-WARE
 - Developers
 - Entrepreneurs
 - Public Administrations

- **Commitment for exploitation required:**
 - Commercial offer in the short term; or
 - Delivery of results in open source otherwise



FI-WARE = advanced OpenStack-based Cloud + rich library of Generic Enablers



The Next Computer



... and all ... **truly Open**



Yes WE'RE
OPEN



FI-WARE Generic Enablers (GEs)

- A FI-WARE Generic Enabler (GE):
 - set of general-purpose **platform functions** available through **APIs**
 - Building with other GEs a [FI-WARE Reference Architecture](#)
- [FI-WARE GE Specifications](#) are open (public and royalty-free)
- **FI-WARE GE implementation (FI-WARE GEi):**
 - Platform product that implements a given GE Open Spec
 - There might be multiple compliant GEis of each GE Open Spec
 - Available FI-WARE GEis published on the [FI-WARE Catalogue](#)
- **The FI-WARE project will deliver at least one reference implementation** of FI-WARE GEs:
 - Based upon results of previous R&D projects
 - Publicly available [Technical Roadmap](#) updated in every release
 - Licensed with no costs within the FI-PPP program
 - Commercialized under FRAND conditions or license as open source



FI-WARE: Targeting developers needs

What

Rich web-based User Experience



Connect apps to the physical world



Manage open data at large scale and transform it into knowledge



Benefit from open innovation (crowd-sourcing, apps composition)



Reach target users, monetize



Ensuring Privacy, Security and Trust



Take the most of infrastructures while keeping costs lower and under control



access from everywhere, adapt to devices



How

Advanced UI Enablers

IoT-M2M Enablers

Data/Context Enablers

Integration and Composition Enablers



Built-in APIs & tools

Business & Delivery Framework (revenue-share, cross-selling, ...)

Security Enablers

Advanced Cloud Enablers

Enablers easing interface to Network and Devices



FI-LAB (FI-WARE Open Innovation Lab)

- FI-LAB (<http://lab.fi-ware.eu>) will be a **case example of a FI-WARE Instance**. It:
 - Provides Cloud hosting capabilities so third parties can run experimental Future Internet Applications and test them
 - Make Generic Enablers implementations available for experimentation:
 - Global accessible instances provided “as a Service”
 - Deployable as dedicated instances by application providers using Cloud blueprint management functions
 - Will be operated under central control and be accessible from a dedicated website.
- Entrepreneurs can setup accounts for free, adhering to certain terms and conditions
- Liason with so-called application sponsors (e.g., smart cities) to enrich the environment



Opportunities for all

Application sponsors (business, cities, etc)

- Connect to entrepreneurs
- Put their data at work
- Visibility, promotion
- Costs saving
- Better service to customers
- Corporate Reputation

Entrepreneurs, Developers

- Ability to test with real data
- Ability to run trials with real users
- Visibility, promotion
- Hosting of permanent showcase
- Connection to potential customers
- Acceleration of product development



FI-Lab



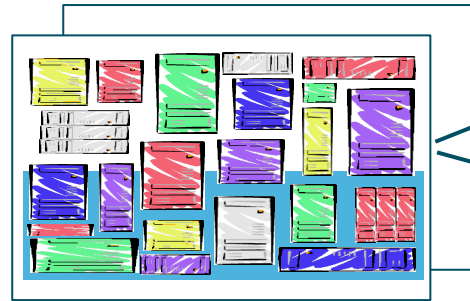
FI-WARE Technology Providers

- Added value to just the technology
- Connecting to entrepreneurs:
Revenue-sharing opportunities



FI-PPP and 3rd facilities: opportunities to explore

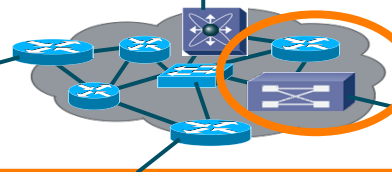
Network of FI-WARE Backend Datacenters



Location platform

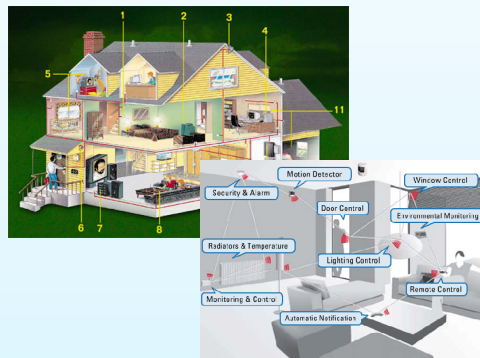


ID providers



Experimental Facilities (networks)

Experimental Facilities (sensors)



SMART Home Lab



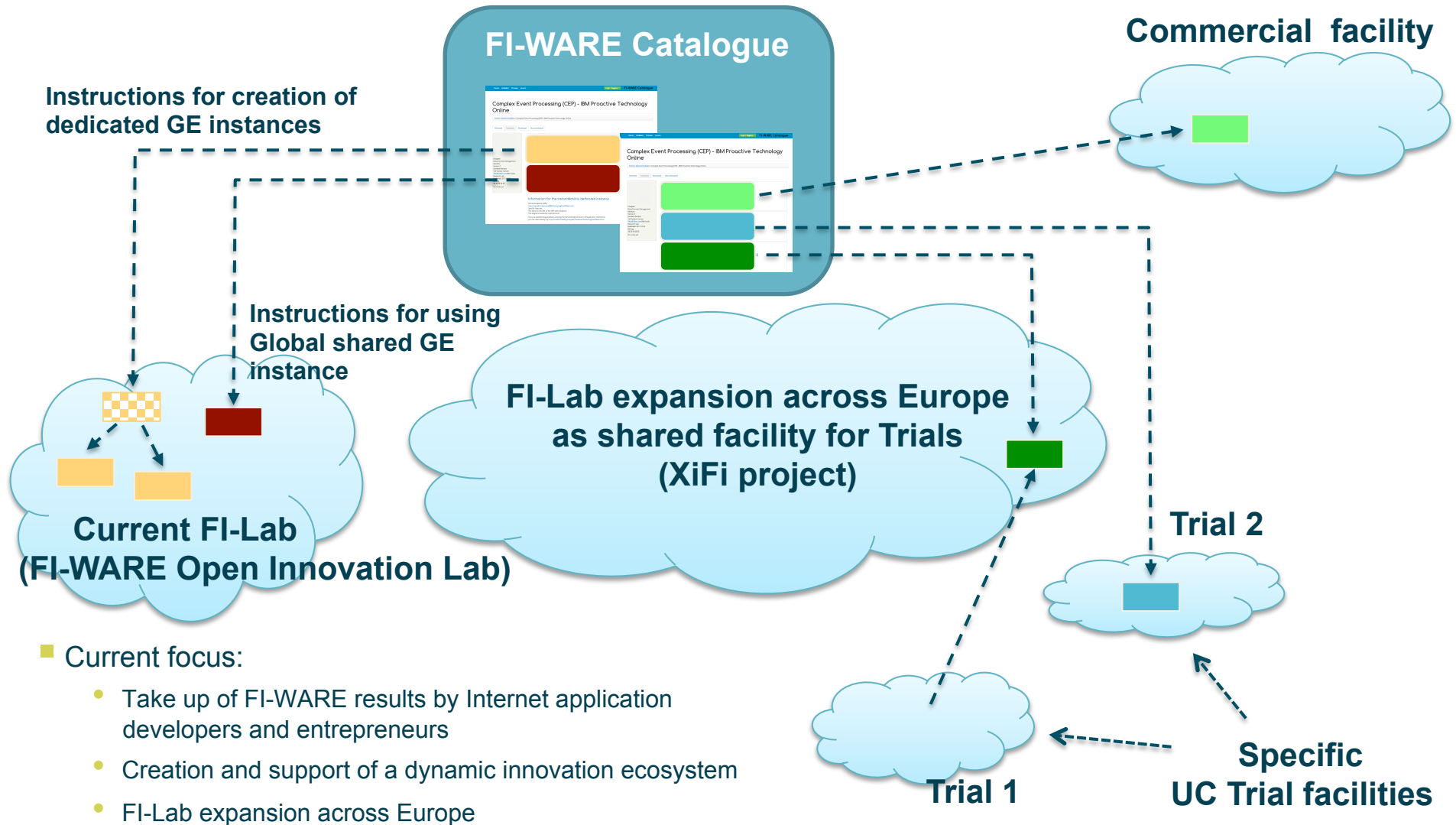
SMART City Lab



SMART Biz Lab



Building the FI-WARE ecosystem: the vision



The EC is making a strong bet on FI-WARE/FI-LAB

- Neelie Kroes launched FI-LAB at Campus Party Europe in London (full speech [here](#))
 - *“FI-WARE is one way we are levelling a playing field: a project to make innovative technologies available for all.”*
 - *“Smart cities are a great example ... They create platforms, and use them, making open data and applications available – to citizens, to developers, to innovators, to come up with yet more ideas ... and this is where initiatives like the FI-LAB come in. Led by industry, this is a major investment in generic technology.”*
- She also made a reference to FI-LAB at the launch of the EIP on Smart Cities and Communities (full speech [here](#))
 - *“Just earlier this week I launched the Future Internet lab ... That's something that you can turn into real results, real jobs, and real innovation. European platforms helping European innovation in European cities.”*
- Additional mentions by the EC compiled [here](#)



An ambitious plan under way

- **Ambitious FI-WARE promotion campaign (4,2 M€ investment during May 2013 – April 2014 period)**
 - Launch of the **FI-WARE Open Innovation Lab** at [London Campus Party](#) (September 3-8)
 - Presence in 50 [startup weekend](#) events across Europe
 - Hackathons, Development contests (870 K€ in awards)
- **100 M€ of funding for SMEs and Web entrepreneurs developing products on top of FI-WARE:**
 - to be canalized through incubators, accelerators, SME associations
 - projects starting in 2014
- Design and deployment of **pan-european FI-WARE trial facility** to be launch in April 2014
- Proposal for **FI-WARE continuation** phase (23 M€)



Thanks !

<http://fi-ppp.eu>

<http://fi-ware.eu>

<http://lab.fi-ware.eu>

Follow @Fiware on Twitter !



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Advanced Cloud Enablers

Enablers easing interface to Network and Devices

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VM provisioning

The screenshot displays the FI-WARE Dashboard interface. The top navigation bar shows the user is logged in as 'admin' with links for 'Settings' and 'Sign Out'. The main content area is divided into two sections: 'Images' and 'Instances'.

Images Section:

Name	Status	Public	Container Format	Disk Format	Actions
20130416111430-NkCent	active	false	OVF	RAW	Launch
20130416121255-ddd	queued	false	-	-	Launch
CentOS-6.2-x86_64	active	false	OVF	QCOW2	Launch
CentOS-6.2-x86_64-r2	active	true	OVF	QCOW2	Launch
CentOS-6.2-x86_64-r3	active	false	OVF	RAW	Launch
CentOS-6.3-x86_64	active	false	OVF	QCOW2	Launch
CentOS-6.3-x86_64-r2	active	true	OVF	RAW	Launch
CentOS-6.3-x86_64-snapshot	active	true	OVF	RAW	Launch
Ubuntu_12.04_cloudimg_amd64	active				
Ubuntu_12.04_cloudimg_amd64_VNC	active				
Ubuntu_12.04_cloudimg_amd64_VNC-r2	active				
Ubuntu_12.04_i386_VNC	active				

Instances Section:

Instance Name	IP Address	Size	Status	Task	Power State
Centos_Chef_PaaS	130.206.80.233	512 MB RAM 1 VCPU 0GB Disk	ACTIVE	None	RUNNING
afterfix-test4	130.206.80.236	512 MB RAM 1 VCPU 0GB Disk	ACTIVE	None	RUNNING
kisin-snapshot-test	130.206.80.238	512 MB RAM 1 VCPU 0GB Disk	ACTIVE	None	RUNNING
paas9test	130.206.80.217	512 MB RAM 1 VCPU		None	RUNNING
testing01	130.206.80.212	512 MB RAM 1 VCPU		None	RUNNING
testsecurity	130.206.80.213	512 MB RAM 1 VCPU		None	RUNNING

Launch Instances Dialog Box:

The dialog box is titled 'Launch Instances' and contains the following fields and sections:

- Server Name:** A text input field.
- Description:** A text area with a placeholder: 'Specify the details for launching an instance. The chart below shows the resources used by this project in relation to the project's quotas.'
- User Data:** A large text area for entering user data.
- Project Quotas:** A summary of available resources:
 - Instance Count (0): 10 Available
 - VCPUs (0): 20 Available
 - Disk (0 GB): 1000 GB Available
 - Memory (0 MB): 51200 MB Available
- Flavor:** A dropdown menu showing 'm1.tiny (1VCPU / 0GB Disk / 512MB Ram)'.
- Keypair:** A dropdown menu with the placeholder 'Select a keypair'.
- Buttons:** 'Cancel' and 'Launch Instance'.



Storage provisioning

The image displays two screenshots of the FI-WARE Dashboard. The top screenshot shows the 'Volumes' management page, and the bottom screenshot shows the 'Containers' management page. Both pages include a sidebar with navigation options and a main content area with data tables and action buttons.

Volumes Management

Logged in as: admin | Settings | Sign Out

FI-WARE Dashboard | Volumes

Buttons: Create Volume, Actions

Name	Description	Size (GB)	Status	Attachments
24372804-storage.occ-i-wg.org	24372804-storage.o...	1	available	-
FIWARE-demo-videos	Videos for FIWARE...	10	available	-
SafeCity_DataFusion	Test purposes only	1	available	-
SafeCity_DataFusion_64bit_logs	-	-	in-use	1
TIOVirtualDisk	-	-	in-use	1
VolumeVideo1	Demo	1	available	-
couchdb	-	500	in-use	1
create_net_test	-	-	-	-
glikson-vol1	-	-	-	-
iosb-volume	volume for iosb	-	-	-
my hard drive	-	-	-	-
pilot_vol	-	-	-	-

Context menu for Volumes: Edit Attachments, Create Snapshot, Delete Volumes

Manage Volume Attachments

Detach Volumes

Instance	Device	Actions
Displaying 0 items		

Attach To Instance

Attach to Instance * | Device Name *

kiisn-snapshot-test | /dev/vdc

* Mandatory fields. | Cancel | Attach Volume

Containers Management

Logged in as: admin | Settings | Sign Out

FI-WARE Dashboard | Containers

Buttons: Create Container, Actions

Name	Objects	Size
OUTSMART	0	0 bytes
cdmi_test_top_container_1354623164.802175	2	23 bytes
cdmi_test_top_container_1354623167.064051	2	23 bytes
cdmi_test_top_container_1354623434.610547	2	23 bytes
cdmi_test_top_container_1354623436.736778	2	23 bytes
cdmi_test_top_container_1354623543.109470	2	23 bytes
cdmi_test_top_container_1354623545.464213	2	23 bytes
cdmi_test_top_container_1354623770.524726	2	23 bytes
cdmi_test_top_container_1354623772.657127	2	23 bytes
cdmi_test_top_container_1354623884.122284	2	23 bytes
cdmi_test_top_container_1354623886.357285	2	23 bytes
cdmi_test_top_container_1354624127.190521	2	23 bytes

Context menu for Containers: List Objects, Upload Objects, Delete Containers



Management of Blueprints

The image displays the FI-WARE Dashboard interface for managing blueprints. It is divided into two main sections: 'Blueprint Templates/ Example 1' and 'Blueprint Instances/ Example 1'.

Blueprint Templates/ Example 1: This section shows a list of three blueprint templates. Each template card displays a question mark icon, a name 'test', and various attributes like Flavor, Image, Keypair, and Public IP. To the right of each card is a 'Software in Tier' list containing 'Node.js', 'Apache', 'Data-Base', 'Rails', and '2two'. A '+ Add Tier' button is visible at the top right of this section.

Blueprint Instances/ Example 1: This section shows a list of three blueprint instances, each with a question mark icon and similar metadata to the templates. A 'Back to instances' button is located at the top right.

Edit Tier Dialog: An 'Edit Tier' dialog box is overlaid on the templates view. It contains a table with columns for 'Attributes', 'Value', and 'Description'. Below the table are two lists: 'Software in tier' and 'Software in the catalogue', both containing the same set of software components: Node.js, Apache, Data-Base, Rails, and 2two. The dialog has 'Cancel' and 'Save' buttons.

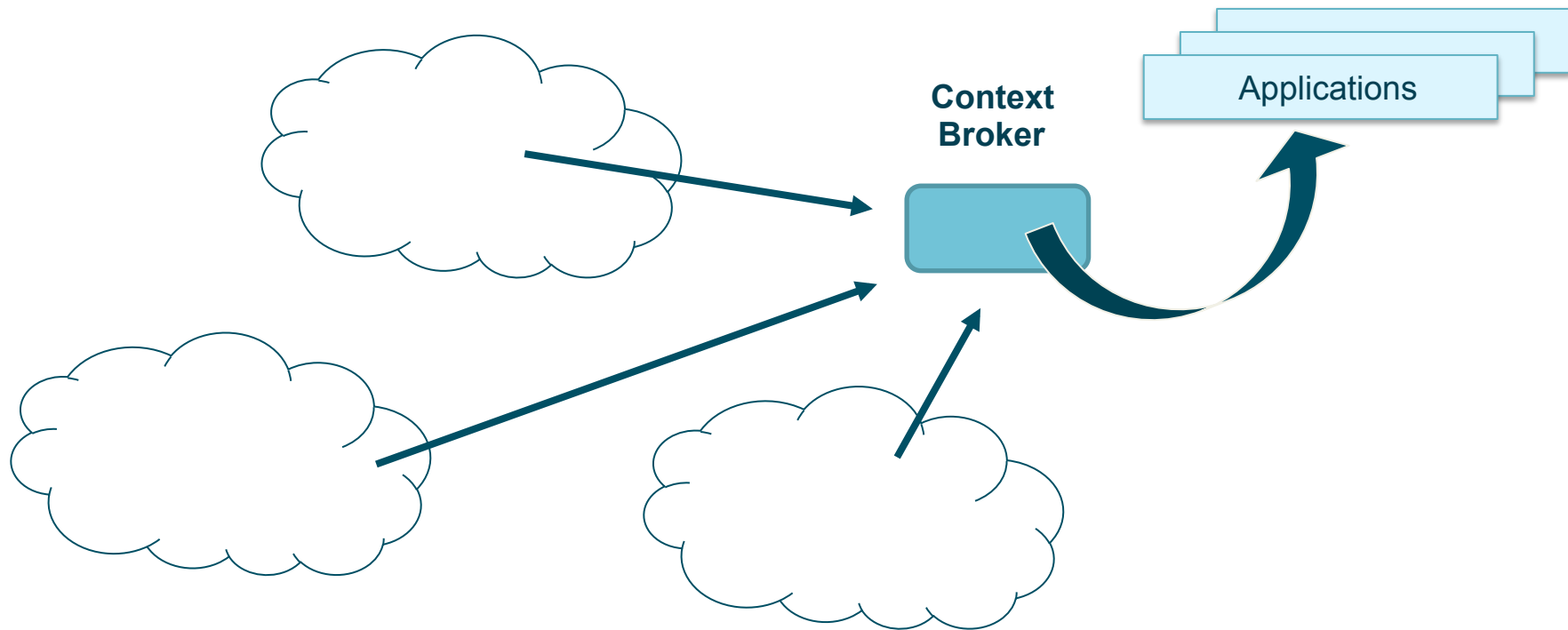
Navigation and UI Elements: The dashboard includes a sidebar with navigation options like 'Applications', 'BluePrint Instances', 'BluePrint Templates', 'Instances', 'Images', 'Security', 'Flavors', 'Snapshots', 'Containers', and 'Volumes'. The top navigation bar shows 'Project Admin' and 'FI-WARE-demo'. Error messages and a footer with copyright information are also present.

Gathering, publishing, processing and analyzing private and open data at large scale

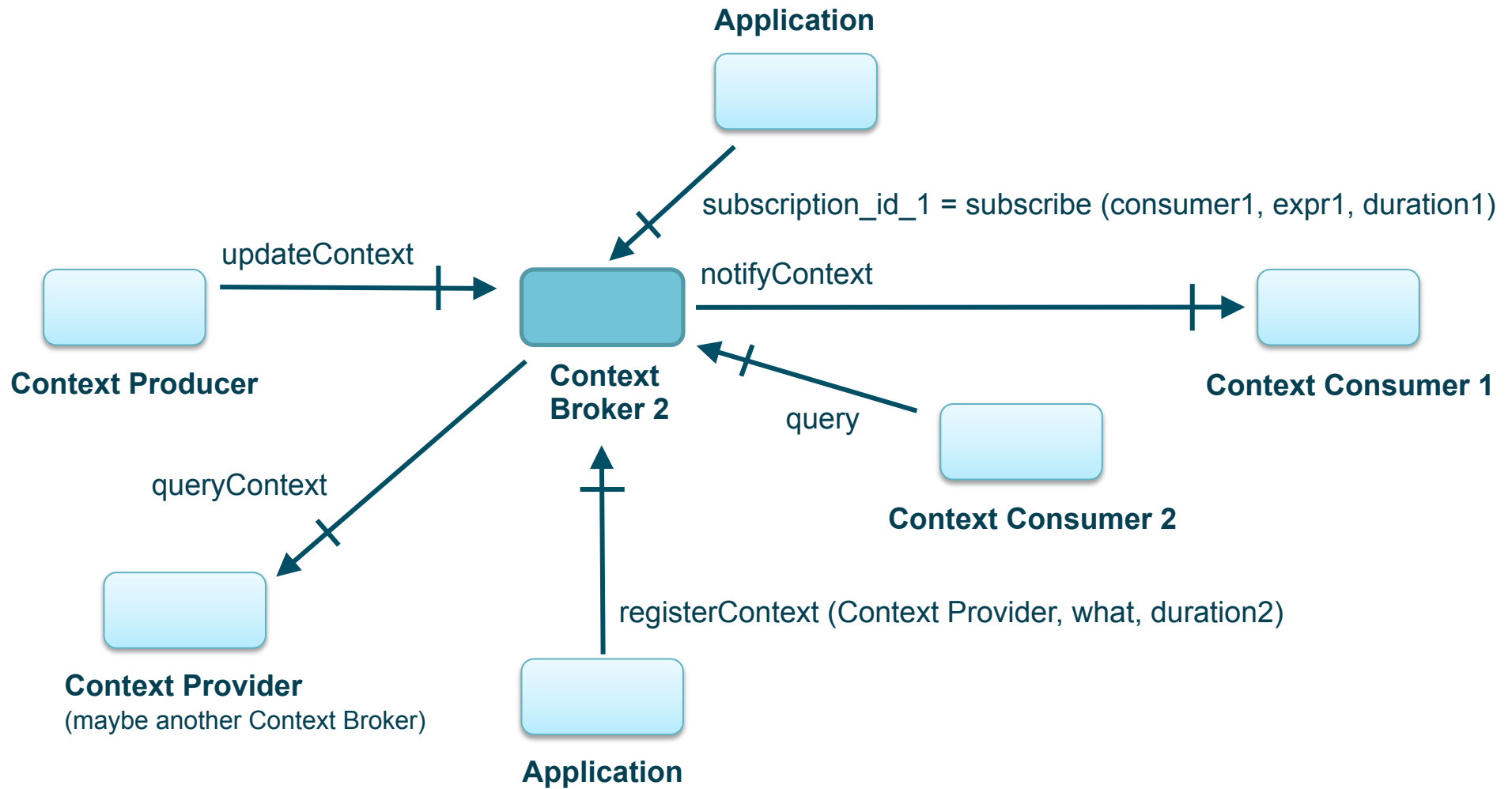


Context

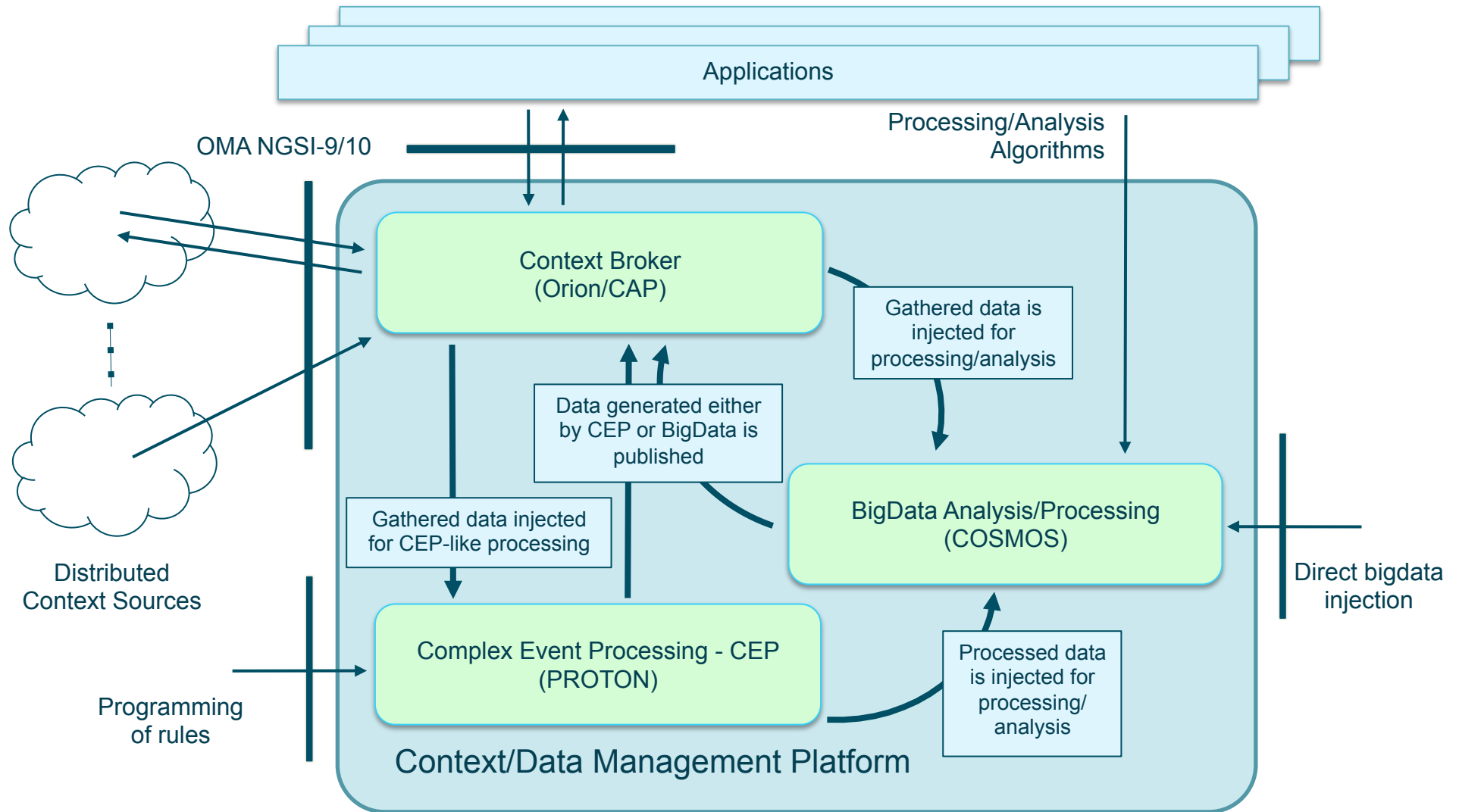
- OMA NGSI Context Management is about management of Context data (aka Context Information)
- Context Information is always relevant to “entities”, although entities can be anything (applications, users, things, ...)



Simple yet powerful interaction model



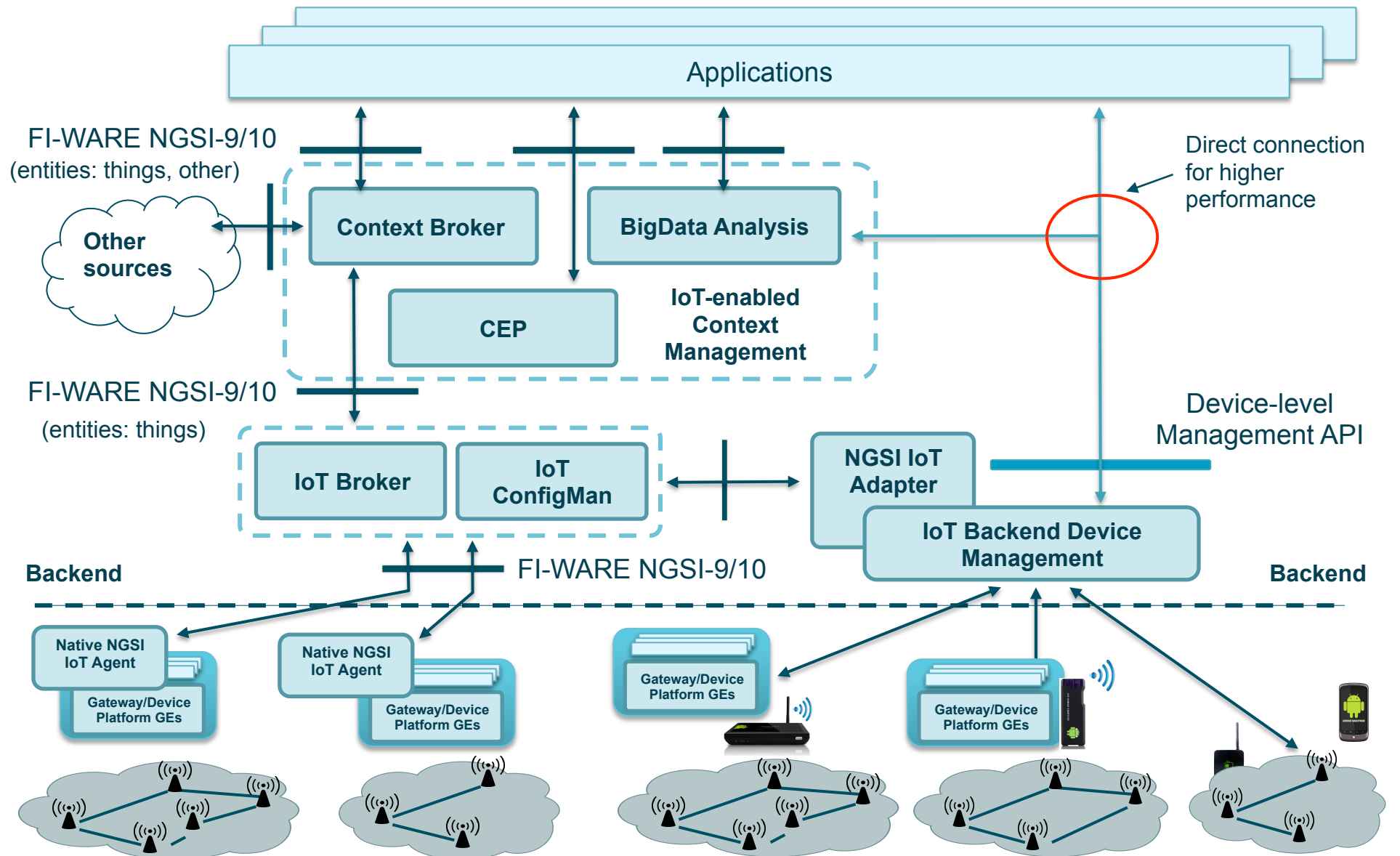
FI-WARE Context/Data Management Platform



Easing connection to the physical world



FI-WARE IoT-M2M & Context/Management altogether



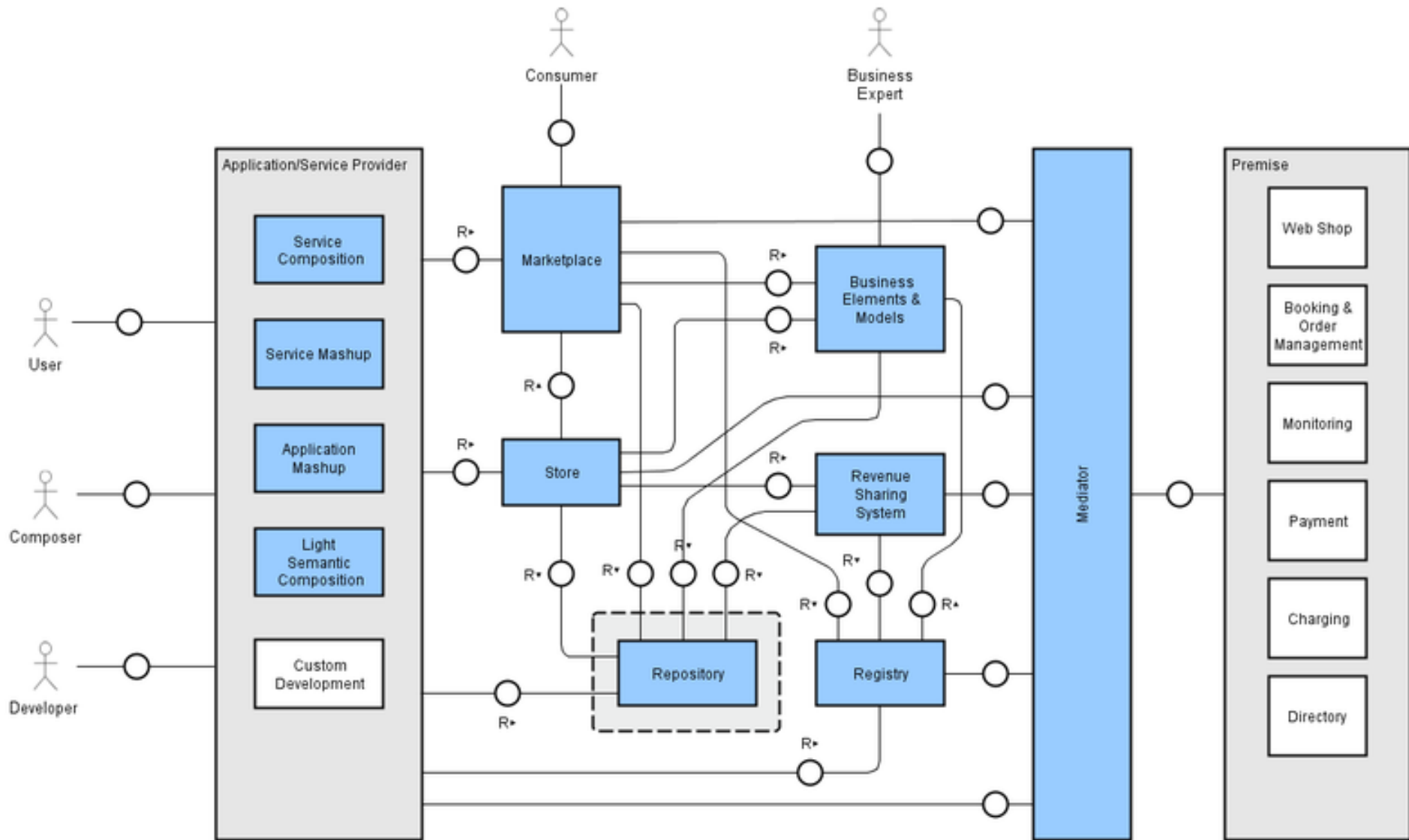
Enabling co-creation through advanced Data/Services Composition and Mashup



Reaching target users, monetize



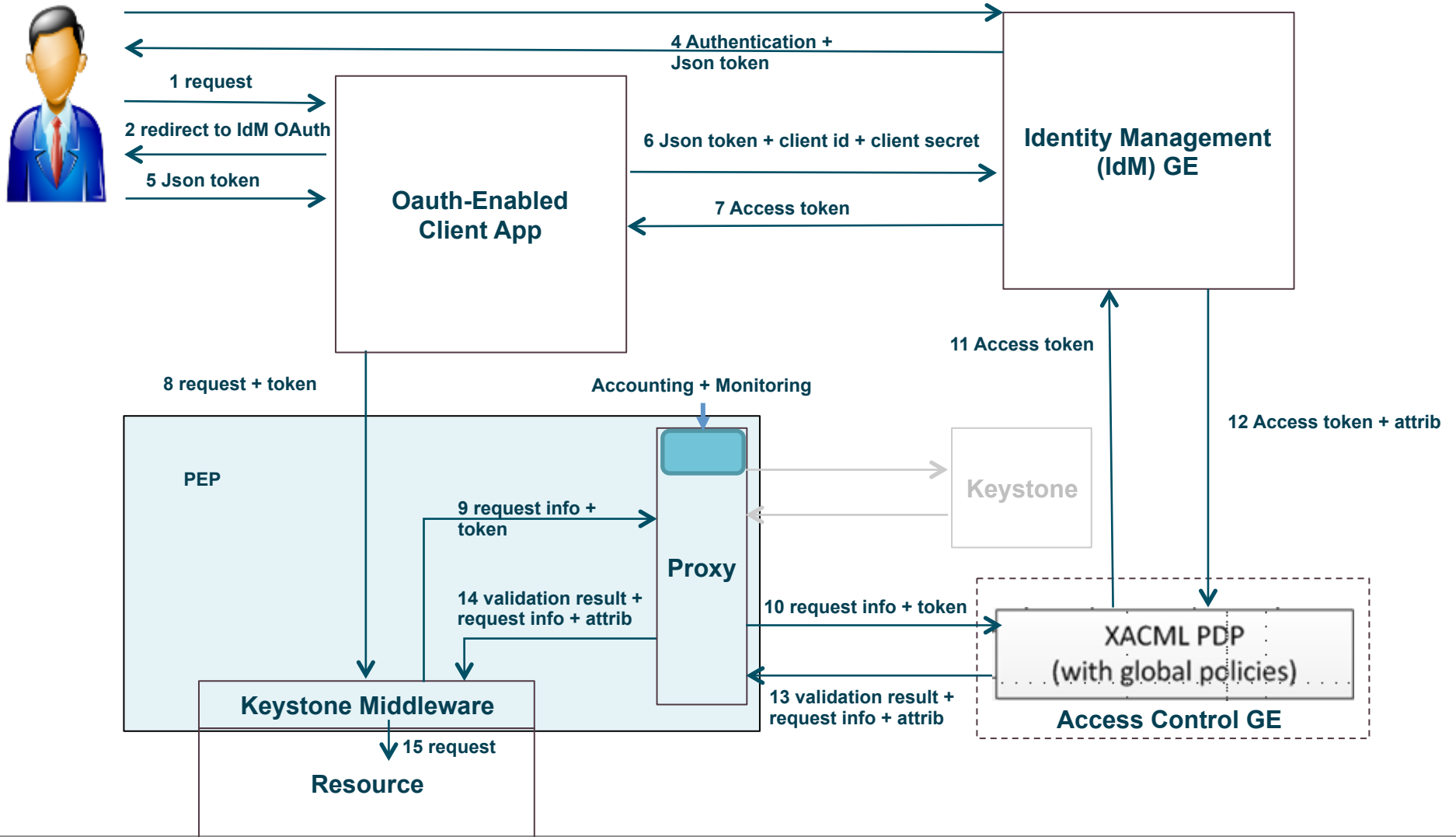
Architecture of the Apps Chapter



Ensuring Privacy, Security and Trust



Proposal (Accounting+Monitoring)



Offering rich web-based user interfaces

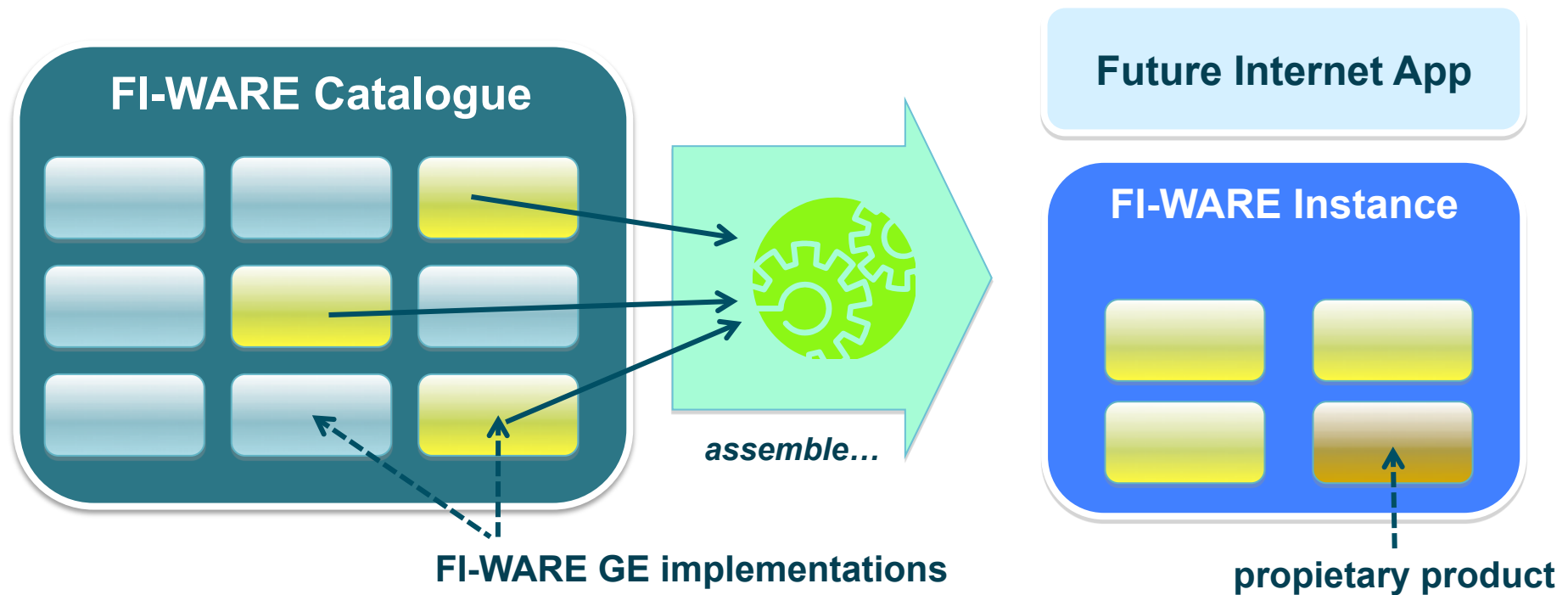


Access from everywhere, taking the most of the network and capabilities of devices



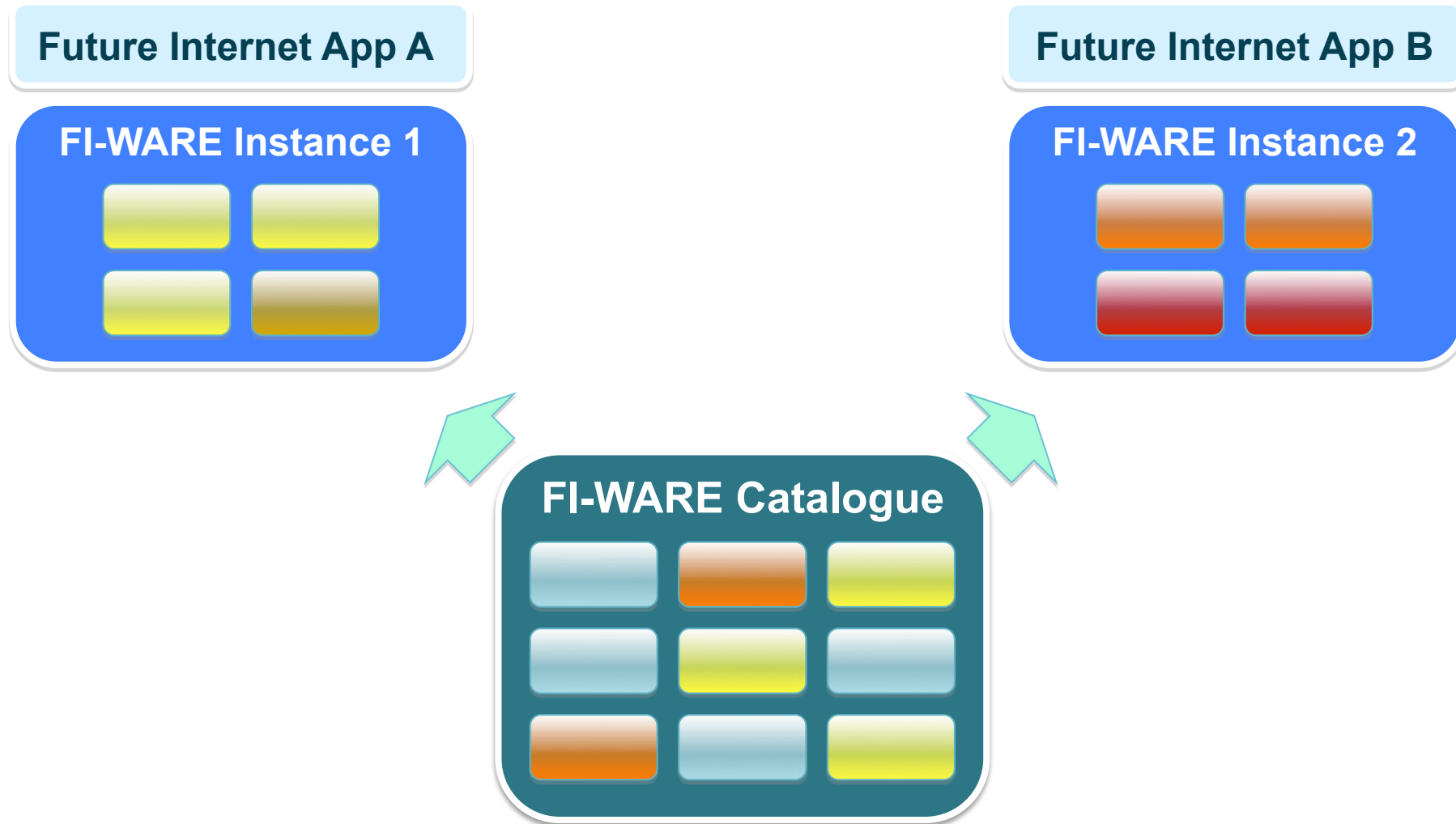
FI-WARE Instances

- Future Internet Applications run on top of “FI-WARE Instances” that are built by “FI-WARE Instance Providers” upon:
 - selection of FI-WARE GEIs (products) from the FI-WARE Catalogue
 - assembly of selected FI-WARE GEIs with proprietary added-value products



FI-WARE Instances

- There is no single universal FI-WARE Instance



FI-WARE Instances

- Offering of several FI-WARE Instances may be combined

