



Service Subscribers, Providers, Aggregators : Business and Technique – Anarchy or Democracy ?

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What is OSGi worth for **Smart Home** Service Providers ?

- Standardising **services** delivery
 - to share access to home gateways
- where **they** are partly installed
 - as « smart home » software components
- Be able to adapt evolving services
 - to various local **resources**
- and to enrol **them** opportunistically
 - to share **them** with other service providers

A technical potential and a **business** vision

A simple example : Smarter Heating Control

Someone (something) will put ON/OFF the heating

- Depending on the temperatures (inside and outside)

But maybe also :

- Depending on the current tariff of energy
- Depending on the other energy consumptions
- Depending on the occupancy of the house/rooms
- And... ?

So, the service provider of **heat control is concerned** by

His possible action on the heating appliances

- Depending of the temperature measurements (that HE performs) ... and **weather forecasts** ?

But also maybe

- On real time **tariff information** (provided by the energy seller-trader)
- And on processing of **power meter readings** (owned by a Utility)
- And on **opportunistic reuse** of **volumetric sensors** (owned by the security service provider)

How & why **interact** with the security service provider ?

- Not only does he have his security software running **on a common gateway** instead of a special gateway
- Other service providers may be interested too by the volumetric (occupancy) **sensors he owns**

And through a common gateway
it is easy to share (hardware)resources

- The service providers « sell » each others **access, data or control**
- They thus provide their customers more (or better) **usage of the investments**

Where is the **common** gateway ? What is it?

To implement the cooperating businesses,
the service providers have a **common implementation space** :

- Maybe only ONE gateway with everything in it
- Or smaller spaces everywhere in the appliances
- Other architectures ?...

When « standard » means of installing evolving components
are provided, and they can inter-work (share purposes) :

What and Where does not really matter !

The **magic** « inter-working » appliances in a smart home

The **absolute delocalisation** of the implementation space is a very difficult feat ; to share the purposes of all service providers :

- Either all the small spaces in the appliances already know them or can invent them through mutual discovery
- Or each service provider must spread his purposes all over the available resources, hoping for enough room – bandwidth and no practical conflicts, or missing features...

(the appliance manufacturers would expect/hope that too !)

Or else it may undermine the reputation of their brands...

Easier to get it right in **central** implementation spaces !

Because what is important to service providers :

sharing of resources for/through cooperating purposes

But business generates also competition and conflicts :

- Competing manufacturers for appliances supporting...
- more or better services from competing service providers

The standard will guaranty that the competition will be fair and **benefit first and most to the customers**, alleviating possibly :

- Conflicts of interest between service providers
- Conflicts of interest between them and manufacturers

So even in case of NO MAGIC INTER-WORKING

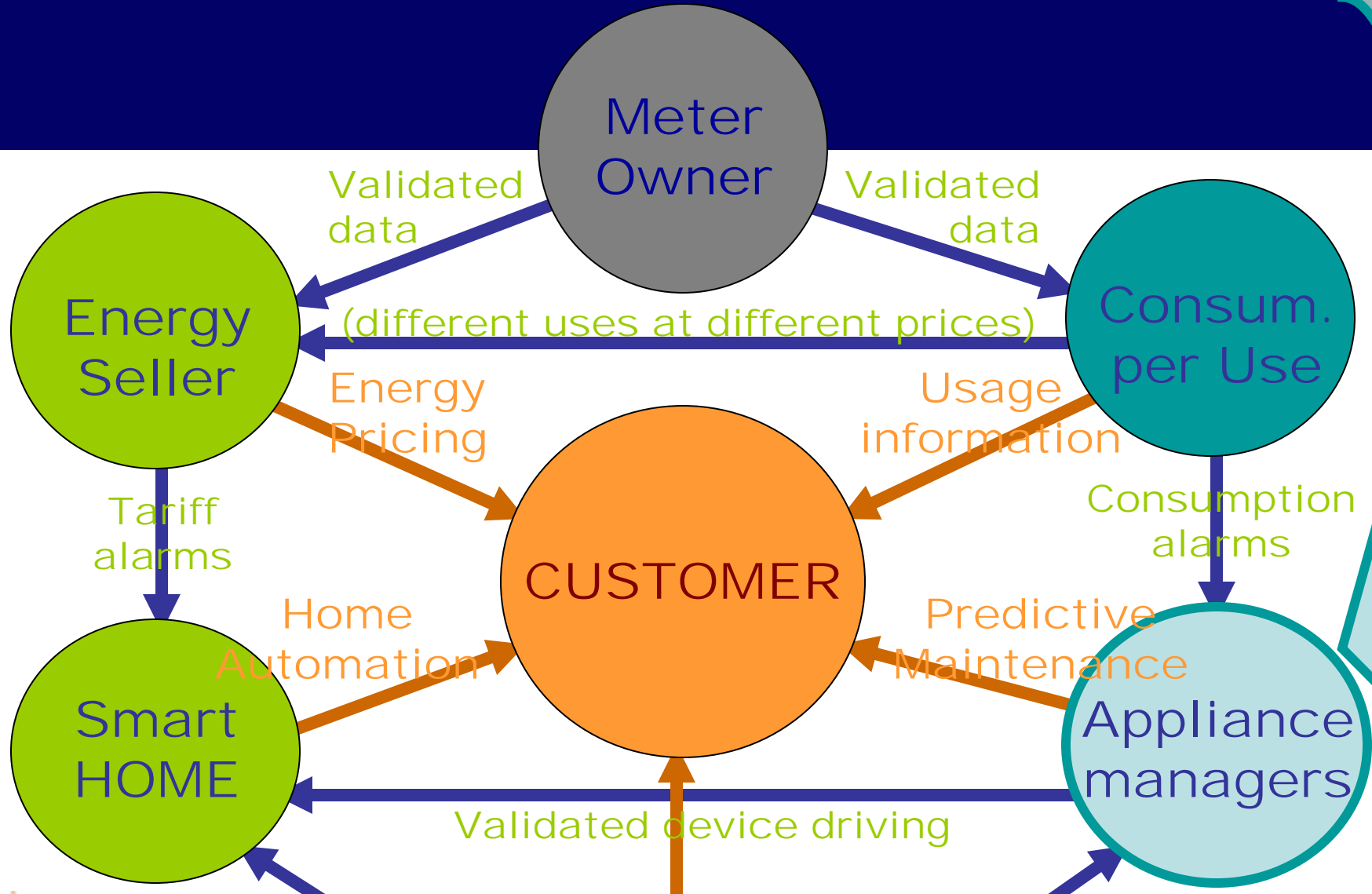
The manufacturers of communicating appliances should not simply give away device drivers (for the service providers to use at will for any purposes)

They should imply themselves (with business views) as **Device Driving Management Service Providers** negotiating (by deploying cooperating components) with **Smart Home Purposes Service Providers**

Besides, they may add their own purposes :
for instance remote diagnostic for predictive maintenance...

Thus, the manufacturers...

...belong to the service provider community too!



How would a Smart Home Service market work ?

- Not the despotic way
One Smart Home Service Provider is in charge of all purposes and owns all control on resources
- Not the anarchic way
Any number of Service Providers contribute to the smarter home through their special purposes taking advantage of any available resources

Shouldn't the resource providers be worried?

What about Democracy ?

- All the stakeholders (also the manufacturers) belong to the Smart Home service community
- They manage B2B relations in controlled ways that will specify how resources are shared
- By fair data exchange and validation of actions

But

- They may also delegate some common interests to one of them acting as the democratic State :

the service aggregator

Then, everybody could relax...

- The service aggregator would develop and deploy and manage administration tools for the community
- He should welcome newcomers, and make sure they are well treated and know how to behave well (helping them with developments for integration)
- He could be in charge of technical tools that provide common look and feel and common branding image of **this** service provider community **so that...**

(most important) The customers can relax too...

The European Application Home Alliance is a Specific Targeted Research Project from the Sixth Framework Program of EU

where TelCos, Utilities, Consumer Good Manufacturers,
Semiconductor, Technology and Research partners

specify an Open, Secure, Seamless Global Home Platform
for Networked Home Control and Audio Video Applications.

Among the applications that will validate the route to
industrial deployment : Smart Home integrating seamlessly
white goods, audio-video and energy/heating control.

For this reason, one important commitment
of the TEAHA project was to adopt OSGi

and this business model was considered « ad hoc »...