

# From Interoperability to Platform Requirements of Large-Scale Pilots



make it ReAAL

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AAL Forum

# Key Facts of the ReAAL Project

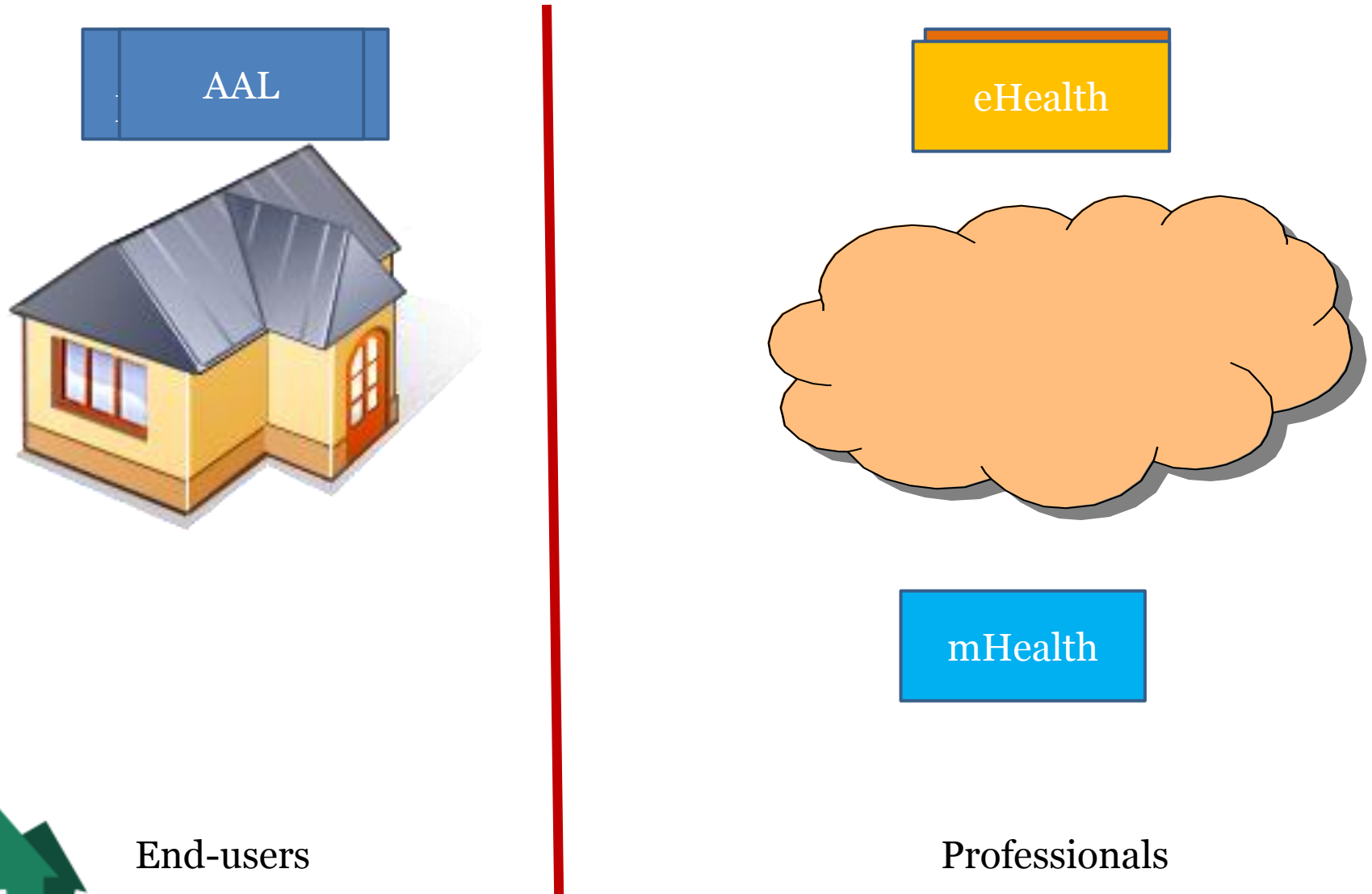
- Evaluating the impact of an **Open Platform** through a **roll-out** of +25 AAL services with +5000 users in real life.
- **universAAL**: AAL Open Platform dedicated to enhance Interoperability of Applications, Device Independencies, etc.
- Measuring the related socio-economic impact
  - Effectiveness of the value chains.
- Create replication guidelines
- Sharing Lessons of 9 Pilots and +3 Associated Pilots.



# 9 pilots +25 Services

ReAAL applications	Germany	Norway	Spain	Spain	Denmark	Italy	Netherlands	Spain	Germany
<b>Independent Living</b>									
<b>Daily Life Assistance</b>									
Home Safety and Care	<a href="#">Home Mgt App</a>	<a href="#">Safer(at) Home</a>							There4You Delivery Services
	Magic Walk	Elec. Locks	Extended TeleAlarm						
Personal Activity Management							Physical Well-being		
<b>Supporting Physical Mobility</b>									
Localisation/Positioning Assistance		<a href="#">Mobile Telecare</a>	<a href="#">Healthy Habits &amp; Mental Wellness</a>	<a href="#">Help when Outdoor</a>					
Mobility and Transportation									
<b>Health and Care in Life</b>									
<b>Monitoring</b>									
Chronic Diseases				Nomhad Chronicity			NetMedical		
Sensorial Supervision									
<b>Rehabilitation and Disabilities Compensation</b>									
Physical Compensation									
Neuro-cognitive compensation		Safe Trackers							CogniBox
Rehabilitation						Task Scheduling (APA)			Health Advisor APA
				Rehabilitation Portal	Rehabilitation Portal				
<b>Caring and Intervention</b>									
Health Care Management							Curavista (Self Management Diaries)		

# Segmentation or Combination of Domains?



End-users

Professionals

# Interoperability or How to Grow Together?

AAL extension  
From Home Network to Mobile to Cloud Solutions



mHealth  
From Professional ICT to Mobile to Cloud Solutions

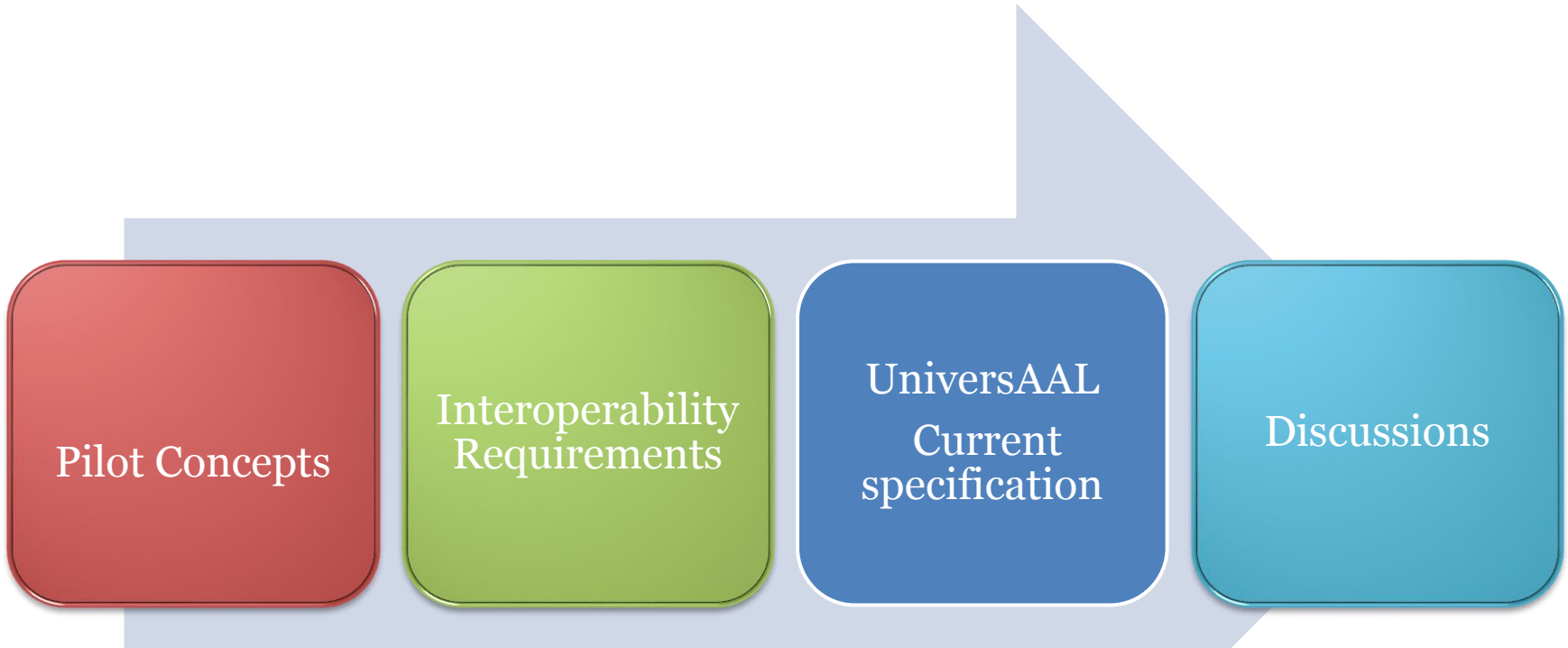


# Business Requirements

- Segmentation is mandatory for solutions / service providers
  - The purchasing chain is complex : B2P2C
- But segmentation is not good for technology deployment (smaller market)
- Interoperability is the technical process to remove barriers and vendor lock-in
- Interoperability should be a vision of Policy Makers and Purchasers (and not a technical proposal).



# How do we have proceed to get Pilot Requirements ?



Contribution was not easy to collect.

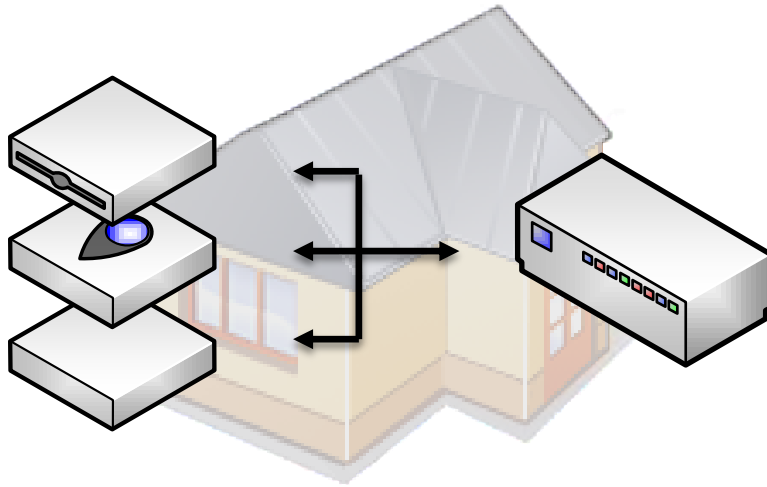


# Pilots Deployment Model

Sensor /  
Actuator  
Devices

Devices  
Communication  
Technology

Home  
Computing  
Device/s



- 1 Device
- N Devices, same tech
- N Devices, different techs
- Nothing

- Open / Standard tech
- Closed / Proprietary tech
- Several of the above
- Nothing

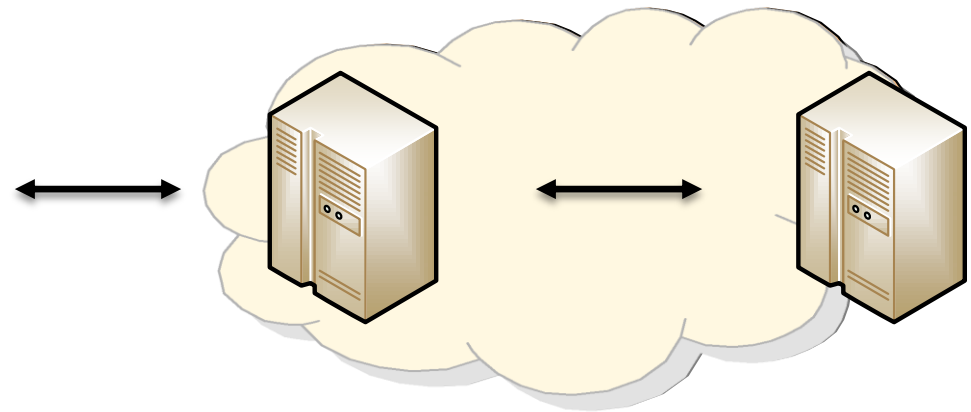
- Devices Hub, 1 tech
- Devices Hub, several tech
- Computing Device/s, OSGi
- Computing Device/s, Android
- Nothing

Remote  
Connection  
Technology

Pilot Server  
Backend

Remote  
Connection  
Technology

External 3<sup>rd</sup>  
Party Server  
Backend



- Specific tech (GSM, SMS...)
- Web Service
- Restful API
- Nothing

- Dedicated Server
- Multiple Servers
- Nothing

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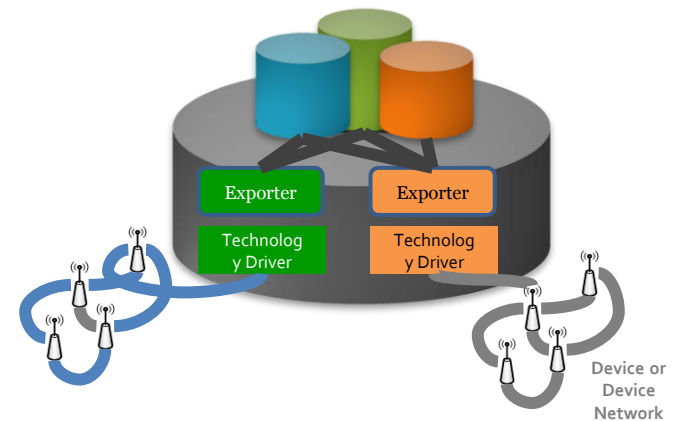
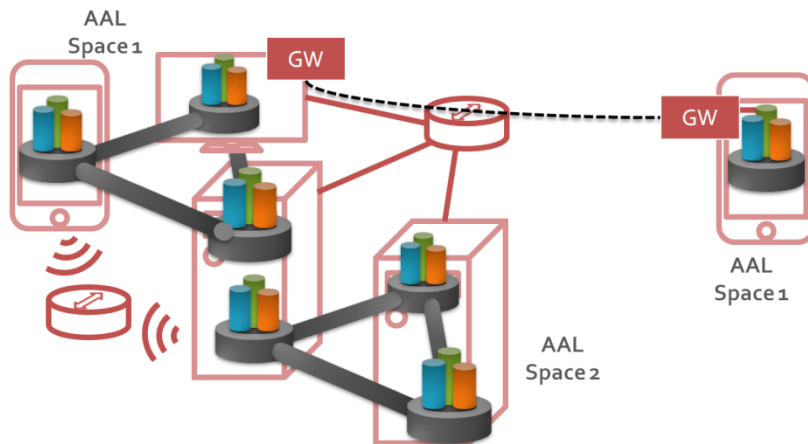
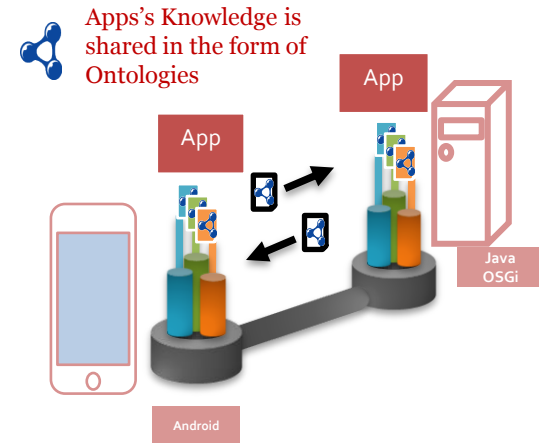
- Dedicated Server
- Multiple Servers
- Nothing





# Several Types of Interoperability

- Interoperability of
  - Applications – Sharing Data
  - Devices - Sharing Hardware
  - Networks – Pervasive Computing



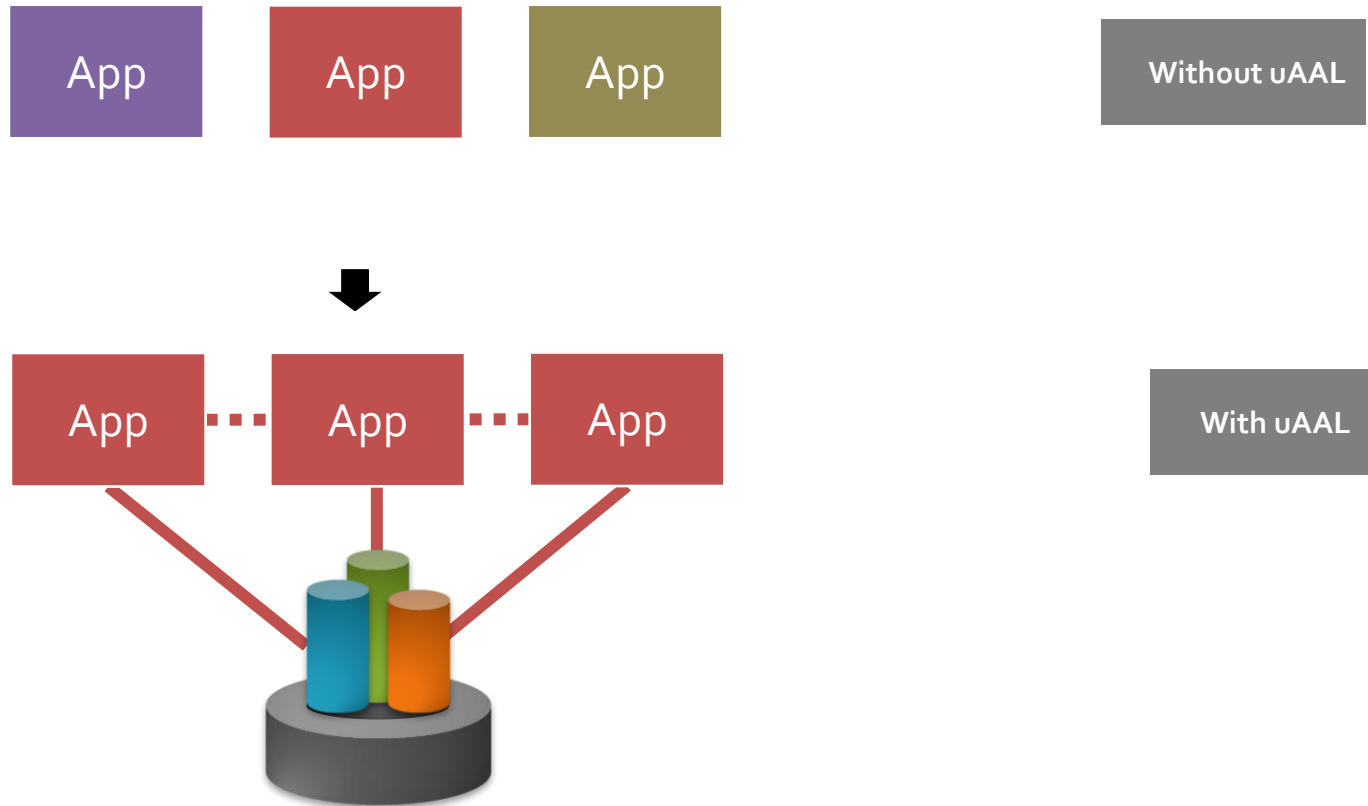
# Features Topics Addressed

- Architecture
- Configuration
- Personalization
- Interoperability
- Shared Communication Infrastructure
- Privacy,
- Security
- Context Information
- Service
- HMI
- Maintainability
- Scalability
- Dependability



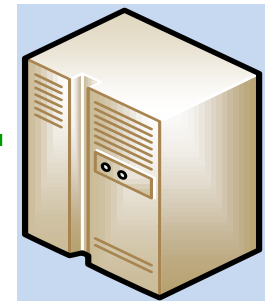
# Change Designer's Perspective

- Issue 1: Pilot Managers do not design applications as a System (no interaction between Apps)



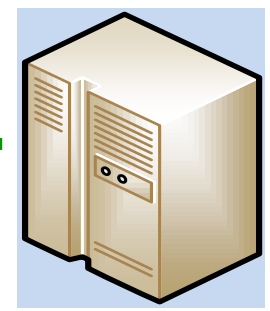
# Example from Pilot

- 3 services running independently



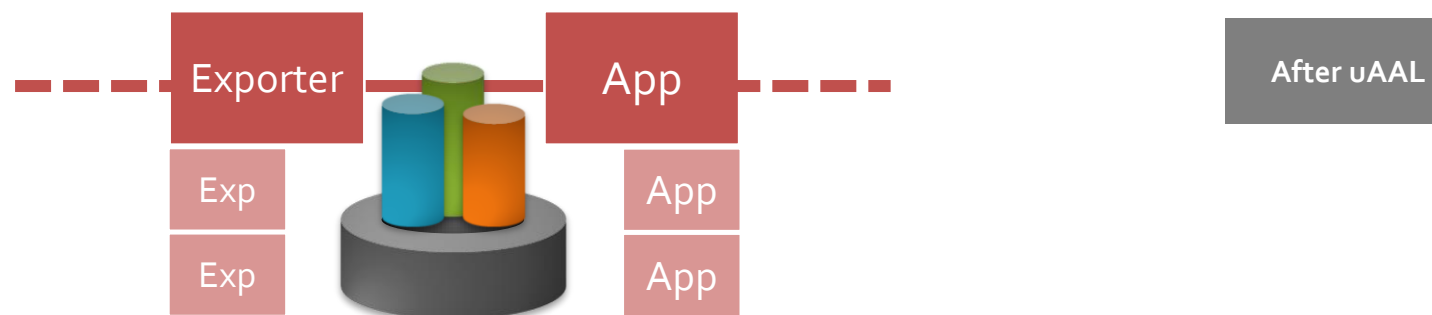
# Go to a System Approach instead of Silos

- 3 services sharing devices



# Hardware Independence

- Decoupling sensors/actuators from applications



Issue 2 : Difficult to impose de-coupling  
between Sensors and Applications  
*They are intimately linked* (solution providers)



Vendor  
lock



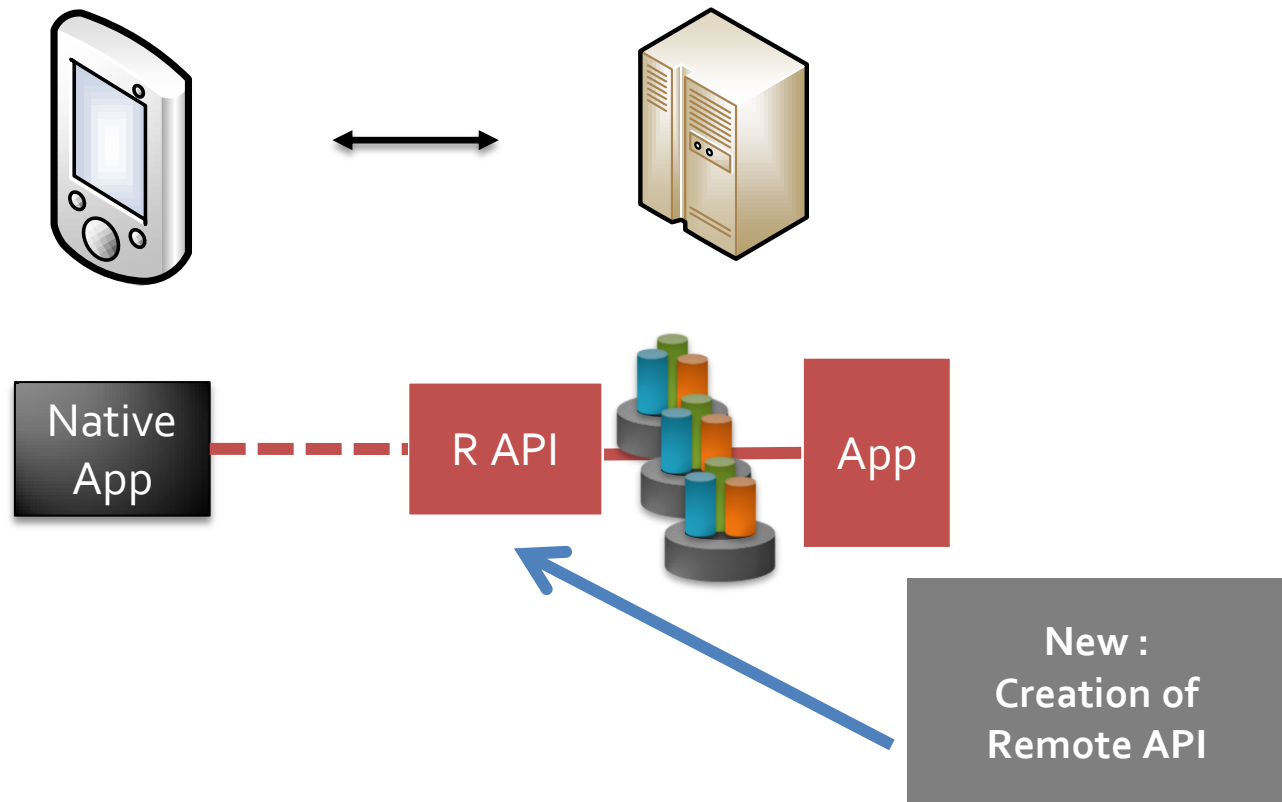
Vendor  
lock



Open  
API

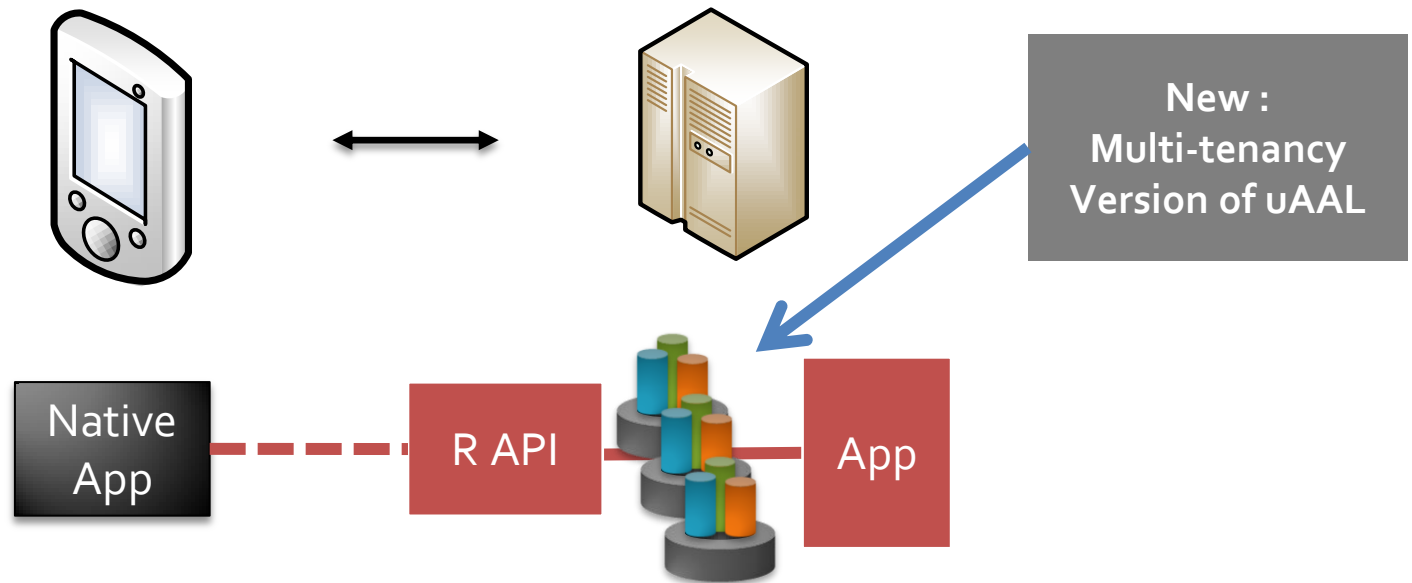
# Keep Mobile Native Apps

- **Issue 3 : The Interoperability is performed at the Cloud Level**



# Applications in the Cloud

- **Issue 4 : Business Logic is in Server Side and not at home**





# 4 Points of Conclusion

- Lesson 1: Interoperability between Apps **is not the primary concern** of AAL Pilot Managers.
- Lesson 2: Policy Makers, Purchasers shall take into account **Systems** and not individual AAL Services.
- Lesson 3: Need for an **Interoperability-by-Design Process**.
- Lesson 4: in AAL , **“Mobile & Cloud” Deployment** and not only Home Devices and Networks.



# Questions and Contacts



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