



OSGi Alliance Community Event

**Moving from research to market.
Pending issues**



Telefonica

**TELEFÓNICA
INVESTIGACIÓN Y DESARROLLO**



- Research projects about services at home
- Commercial services
- Pending issues



Research projects about services at home

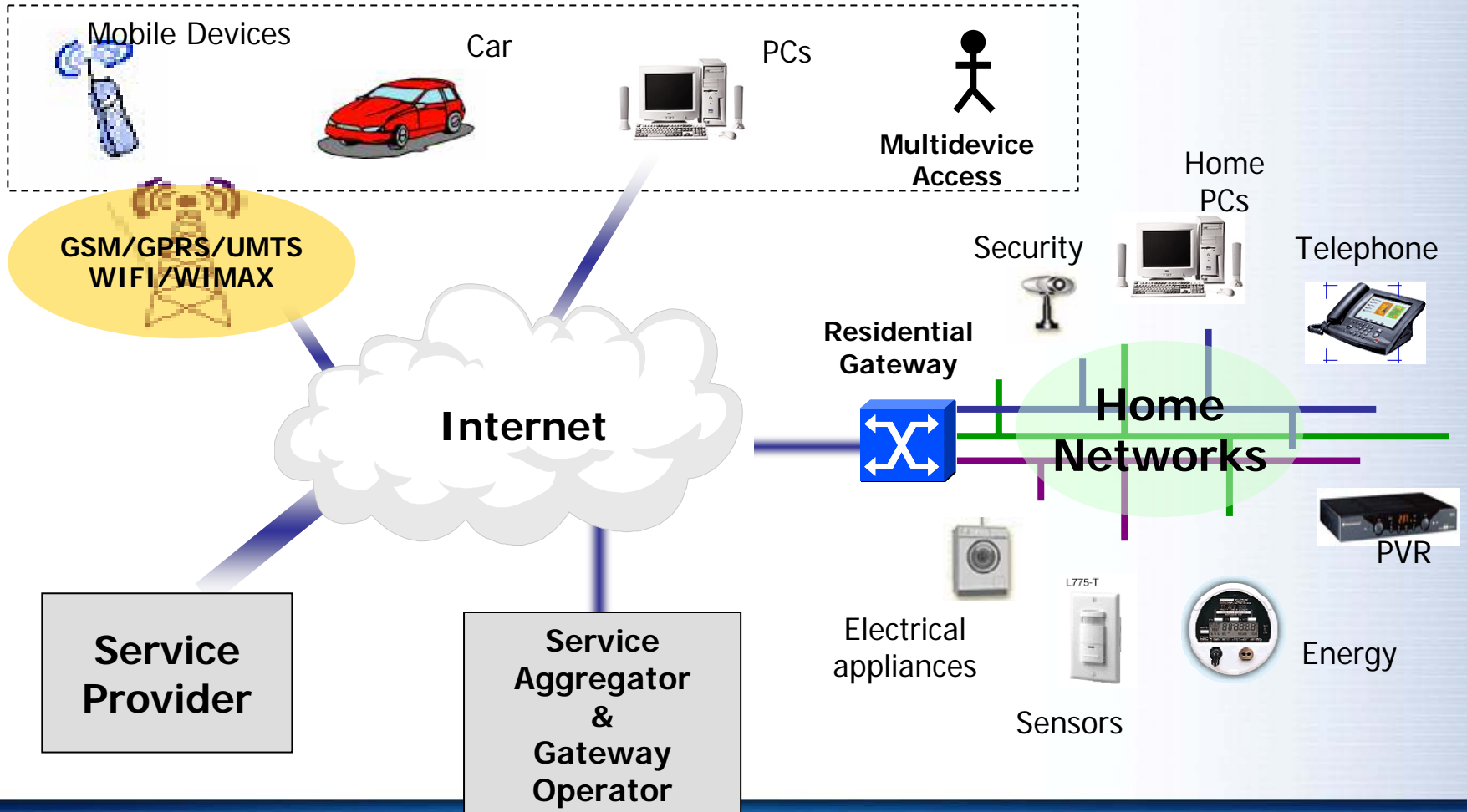
- Telefónica is mainly interested in offering added value services to increase its customers' loyalty.
- One of the Key strategies is: Improve and offer New and Attractive Services!
- Several research projects in which OSGi took a key role:



- The Developed services were: VoIP, home automation, tele-health, distribution and streaming of contents, security and surveillance, multimodal interfaces, tele-education



Our most common scenario





Why OSGi in this scenario?

- OSGi eases the management of dynamic services:
 - Offers Java based APIs that allow building platform independent flexible applications.
 - Provides mechanism for the coexistence of different services
 - Follows a collaborative model in which an application can discover and use the functionality provided by other applications
 - Facilitates the management a great number of devices from a single domain.
- Provides a bridge to manage non-IP networks: e.g. security and home automation networks
- Interoperability of devices over different networking domains is feasible thanks to OSGi



- **Commercial services**



Home Automation Service

- **Telefonica I+D is launching an OSGi based commercial service:**
 - Home Automation – “Telegestión domótica”.
 - Roadmap: summer 2007.
- **The platform used to manage this service follows a service aggregation architecture.**
 - New services can be provided using the same platform
 - New service providers can benefit from the existing infrastructure and service components
 - Offering similar or New services.



Home Automation Service

- **Service Functionality:**
 - Control
 - Technical alarms
 - Lighting
 - Heating systems
- **Focusing on energy management and saving.**



Home Automation Service

- **Supported home automation networks**
 - EIB/Knx
 - Hometronic
 - Busing
 - Dinitel
 - X10
- **OSGi allows to make the service independent from underlying home automation protocols and devices.**



Home Automation Service

- **Graphical user interfaces:**
 - Web
 - PDA
 - Mobile phone
 - Imagenio (IPTV service)
- **Future service extensions:**
 - Access control
 - Security
 - Integration with an already existing video surveillance service



- **Pending issues**



Cost of devices

- **Telecom Operators usually base their services on cheap modem-routers paid off before replacement. A competitive prize for an OSGi gateway:**
 - less than 100 €
- **Telcos should invest more on CPEs to be able to offer this type of services:**
 - **Is the market prepared for that? Is there any “life” beyond Triple Play?**
 - **What’s the killer application that REQUIRES something like OSGi to succeed?**
 - **A sustainable Home: We must consume less energy and find new ways for its procurement!**



Cost. Possible solutions

- **Independent OSGi box**
 - Separated from the router, which has already been paid. This box is paid only by the interested users (approach taken for the home automation service).
- **Customized gateways**
 - Different gateways for different users, or customizable gateways with pluggable hardware modules (extra memory or new functionalities). The user pays for extra functionalities when needed.
- **A single box with all the required hardware and software capabilities**



Remote management infrastructure

- **Telecom operators traditionally don't manage customer networks.**
 - **There is no Integration with the Core Networks**
 - **Some solutions are beeing developped and tested**
- **Complexity**
 - **Different protocols for different kind of devices**
 - **TR-069 for fixed devices**
 - **OMA DM for mobile devices**
 - **Others (DMTF for desktop and mobile clients)**
 - **Try to reduce this complexity:**
 - **“Converged Device Management Initiative” launched recently by Telefonica**



Lack of integration on devices

- **OSGi TR-069 management:**
 - The available home gateways can be managed through TR-069, but there is no integration with OSGi. Standardization could help to have an integrated remote management solution for this kind of devices.
- **OSGi OMA DM management:**
 - Included in the R4 specification
 - But... solutions aren't integrated with the native management agent, you should add another OMA DM client for the OSGi framework
 - The agent should be just one



Conclusions

- **OSGi seems to be the best solution**
- **First commercial services are on the way: Market Feedback.**
- **We need to solve the integration of platforms and protocols!**



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Thank you!

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