



# **SMEPP:** Secure Middleware for Embedded Peer to Peer Systems

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## Descripción General

- **Middleware Seguro para Sistemas Empotrados P2P**
- Basado en un **nuevo modelo de interacción**
  - Servicios, grupos, eventos
- **Seguridad:** Fundamental desde el diseño
- Validación mediante **dos aplicaciones**
  - Monitorización ambiental de instalaciones industriales
  - Hogar Digital y Teleasistencia
- 4 áreas de objetivos
  - **OA1:** *Abstract Service and Interaction Model*
  - **OA2:** *Middleware Architecture and Infrastructure*
  - **OA3:** *Security*
  - **OA4:** *Applications*



## Información básica

- **Coordinador:** Universidad de Málaga (Spain)
- **Presupuesto:** 4.5 M€
- **Duración:** Septiembre 2006- Septiembre 2009
- **Web:** <http://www.smepp.org>

Socio	País
Tecnatom, S. A.	España
Technische Universität Graz	Austria
Siemens AG	Alemania
VTT	Finlandia
Università di Pisa	Italia
Telefónica I+D	España
Institute for Infocomm Research	Singapur

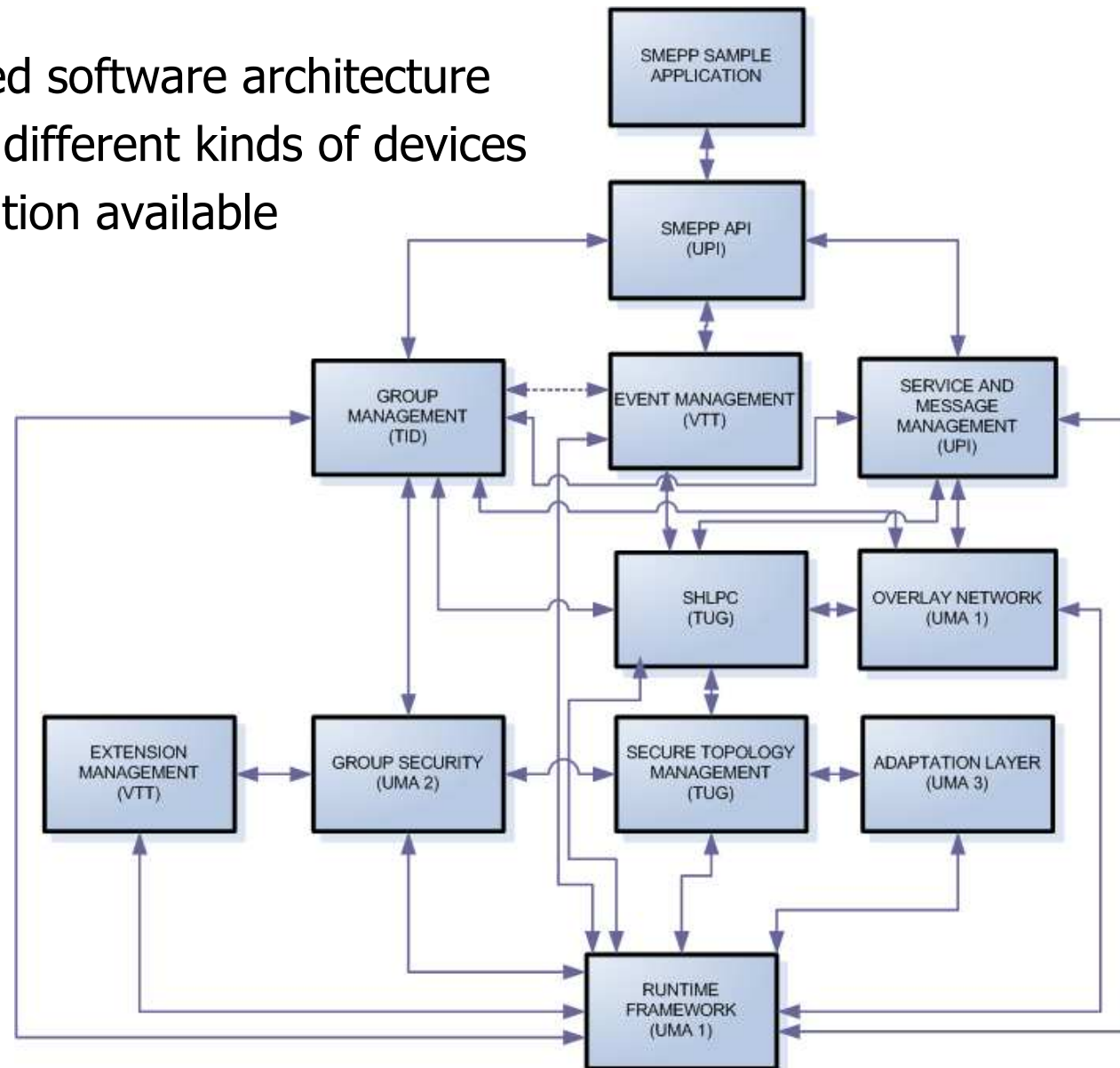




# Middleware Architecture & Implementation



- Component-based software architecture
- Configurable for different kinds of devices
- First implementation available





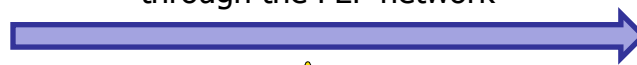
# Validation Application I: Telecare



Wonderful ! Dr. House is going to acknowledge my request



The alarm is sent to the assistant through the P2P network



I'm sorry mummy, but I cannot acknowledge you right now



Different ways to contact



Chat



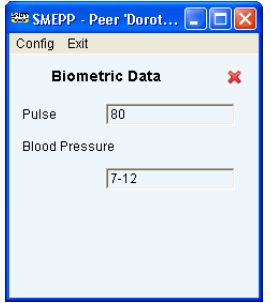
Request a picture



Sophia has a problem. I'll t...

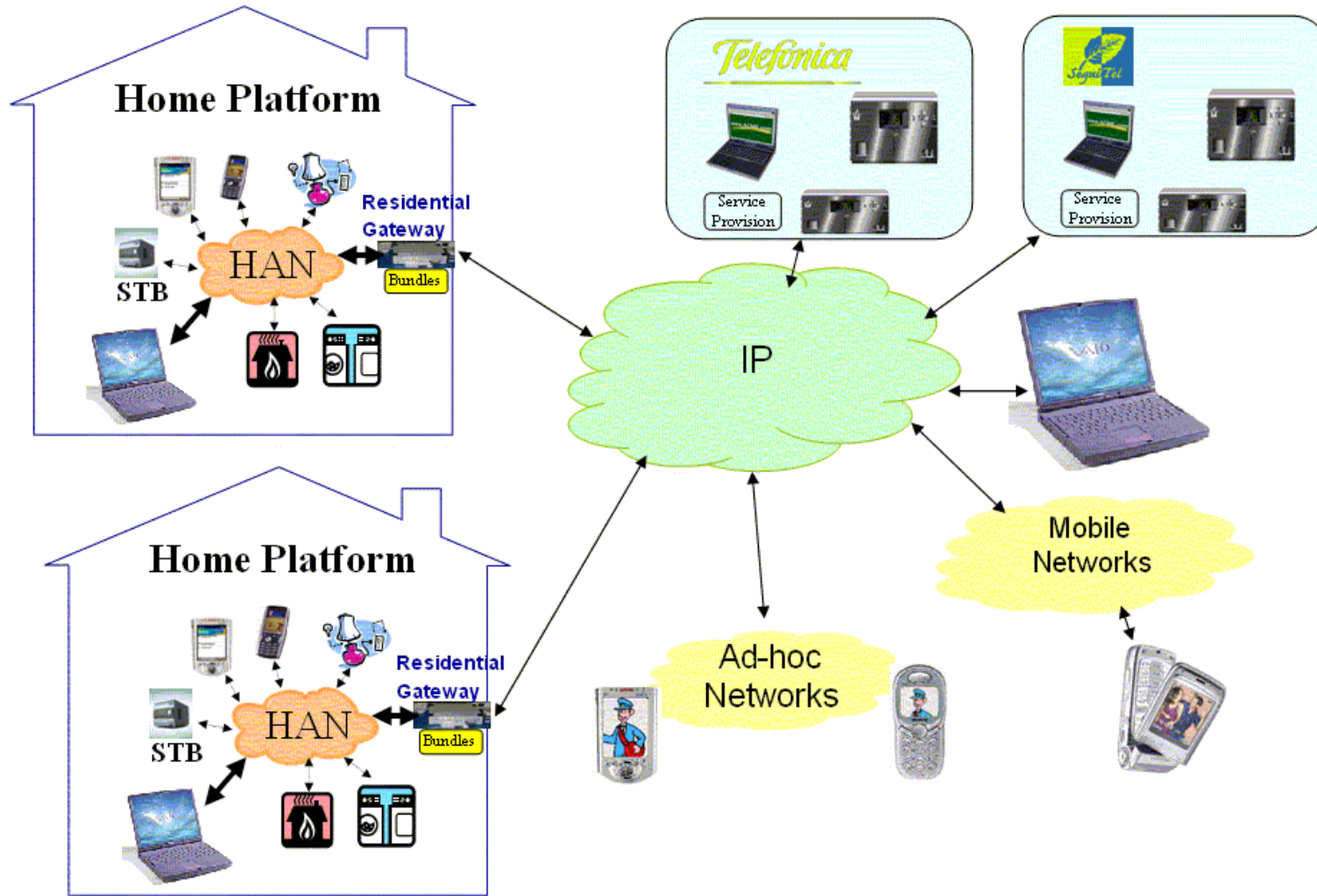


Biometric Data





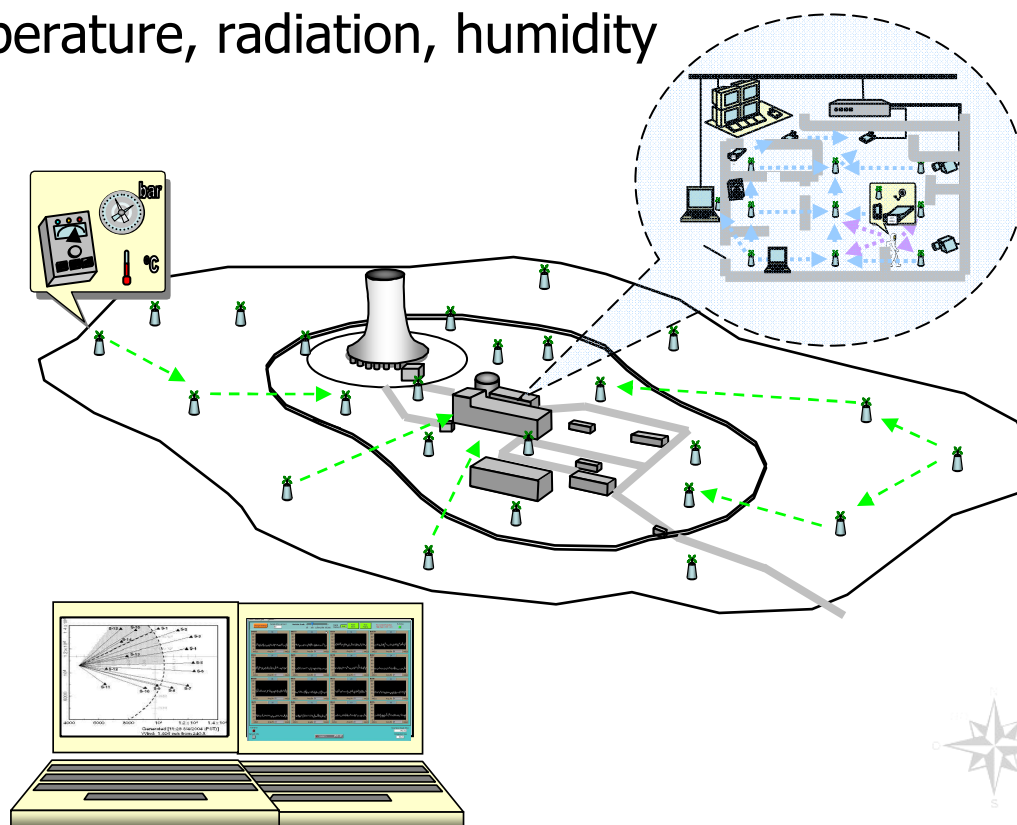
# Telecare: High Level Architecture





## Validation Application II:

- Environmental Monitoring & Remote Control
  - External: Temperature, pressure, wind, radiation, ...
  - Internal: Temperature, radiation, humidity















## Conclusions & future work

- What we already have:
  - Secure middleware design for Embedded P2P
    - Group/Service oriented model
    - Built-in security levels from “motes” and above
    - Configurable software architecture
  - Middleware first version available
  - Validation application prototypes
- What we are doing now:
- Integrating applications with SMEPP middleware
  
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