Standards in AAL

AAL Forum 2009
Standards and Interoperability
01 October 2009
Vienna
To live independently I need…

…where electronics helps lots

- Telehealth sensors, medicine reminders
- Electronic carer monitoring
- Local media, local activities, employment/occupation

Proactive environmental sensors

Assistive technology

Monitoring of meals, dietary help, Internet shopping

Appropriate response team, proactive calling

User-friendly communications

Local media, employment/stimulation

AAL Forum 2009

October 1, 2009
Observations related to this scope for AAL

- The AAL domain consists of a large set of independently developed systems and services.
- There is an added value when data from these systems and services can be exchanged, aggregated and used by reasoning services resulting in better support for the clients.

This can only be achieved when these systems and services are interoperable and can be integrated dynamically.
Interoperability dimensions as defined by HL7

• These systems and services should fit (mechanic, electronic, EMS, etc.), in existing environments (physical or environmental interoperability)

• These systems and services should be able to communicate and exchange data with each other (technical or syntactically interoperability)

• These systems and services should be able to understand each others data (semantic interoperability)

• The exchanged data should fit the needs of the systems and services (process interoperability)

This can only be achieved when standards are being used
Categories of standards

Institutional categories:

• official,
• voluntary,
• proprietary, and
• open standards.

Industry groups play an important role:
CONTINUA, DLNA, WiMedia…
Some observations

Many standards around but:

- Conflicting versions
- Conflicting implementations of same standard
- Lack of specific standards
- Lack of certification of products and services
Barriers for adoption

• Supplier barriers:
  – Focus on internal efficiency within supplier
  – Standards not designed to user needs
  – Ignorance about standards
  – Implementation or migration costs

• Care delivery organization barriers:
  – Focus on internal efficiency within care delivery organization
  – Lack of financial incentive to electronically exchange data with other care delivery organizations

• Political barriers, regulations, SDO barriers
# Categories of Standards in the context of AAL

<table>
<thead>
<tr>
<th>AAL integration</th>
<th>Domain specific</th>
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<tbody>
<tr>
<td>Exchange formats</td>
<td>Healthcare: tele-monitoring, medication management, care organisation</td>
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<tr>
<td>Ontology’s</td>
<td>Home control, safety and security</td>
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<td>Infotainment and social connectedness</td>
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<td>Electronic shopping, ordering and payment</td>
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<tr>
<th>Generic technologies</th>
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<tr>
<td>Connectivity: PAN, LAN, WAN</td>
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<tr>
<td>Web based services, privacy and security technologies</td>
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<td>Distributed systems, middleware</td>
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<tr>
<th>Equipment and environment standards</th>
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<tr>
<td>Home and building electronics</td>
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<tr>
<td>Safety, EMC, Connectors, material</td>
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Inventory of standards

In our standards document we identified a number of standards, spread as follows on the categories:

- 11 on domain specific standards
- 9 on equipment and environment standards
- 14 on generic technologies

But there are many more

Document available at:
SmartHome related standards

EN 50090-1
Standard structure

EN 50090-2
System overview

EN 50090-5
Aspects of application

EN 50090-6
Interfaces

EN 50090-7
System Management

EN 50090-8
Conformity

EN 50090-9
Installation requirements

CENELEC

Architecture and hardware requirements

Application

Communication

Certification

Installation
We are not alone..

- From R&D projects most of them are using standards, only a few are contributing to standardization: OASIS, EMERGE, EASY LINE+, MPOWER, SOPRANO, WAYAGE, Persona, SENIOR, e-PAL, CAPSIL, i2HOME, Amigo, NUADU (ITEA)
- CENELEC SmartHouse working on a roadmap
- Home TAHI Interoperability Framework Initiative
- CONTINUA alliance
- … and probably more
Recommendation

- Increase awareness of the need and the opportunities
- Identify and select standards
- Promote these selected standards
- Develop design guidelines using those selected standards
- Label and certification of products and services
Thank you for your attention