

The logo for UNIVERSAAL, featuring the word in a large, bold, black, sans-serif font with a red swoosh above the letters 'U' and 'A'.

**Universal Open Platform and Reference Specification for Ambient
Assisted Living**

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Outline

- ❑ The growing “ageing population” problem & Ambient Assisting Living (AAL)

- ❑ universAAL as a systematic approach for AAL systems development
 - Architectural overview and key platform of universAAL
 - Middleware
 - AAL Studio
 - One stop Shop for AAL Services (uStore)

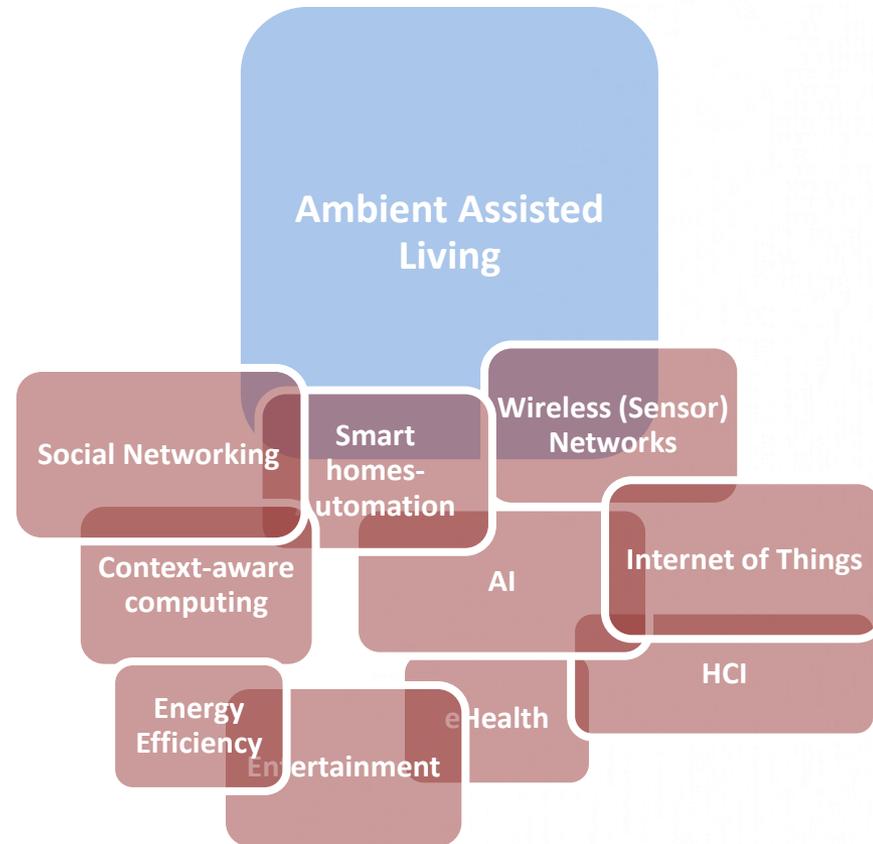
The Problem of the “Ageing Population”

□ Problem dimensions

- Fast growing rate of an “ageing society”
- In the next 40 years people over 80 years old will triple!
- Larger number of people will live alone
- Decreased number of active/working people will be able to take care of the elderly
- Pressure on national economies and healthcare systems

Ambient Assisted Living (AAL)

- ❑ Towards a “solution” Ambient Assisted Living (AAL)
- ❑ Use of ICT
 - Increases the quality of life of the elderly
 - Prolongs their independence



AAL – the problem

- ❑ Lack of standard solutions
- ❑ Lack of standards
- ❑ Poor interoperability
 - Devices
 - Data Formats & Communication Protocols
 - Application Environments
- ❑ Vast development costs
 - Not cost-effective

...a new market potential?

A Systematic Approach for AAL Systems Development



Universal – Open Platform and Reference
Specification for **AAL**

The universAAL Project

□ Aim

- Make it technically feasible and economically viable to conceive, design and deploy new, innovative AAL services

□ Technical goals

- Provide an open and scalable technological platform that facilitates the development and deployment of a wide range of AAL services
- Provide the necessary technical support, and acting as an open, common basis for both developers and end-users
- Facilitate the development of “assistive systems” by connecting various, heterogeneous devices to a single, unified network
- Deliver the means to control this distributed system and its devices

Vision

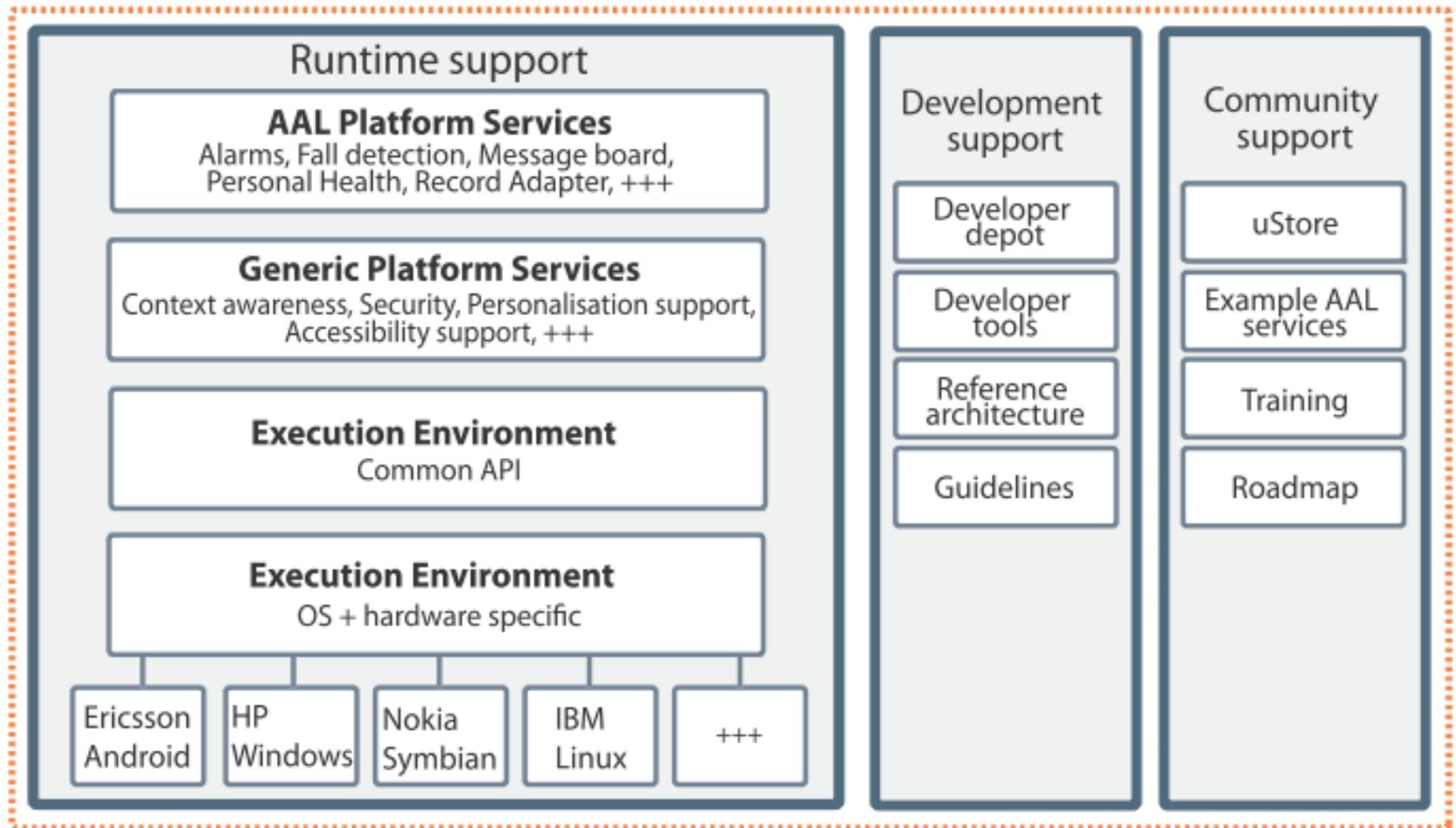


Platform Details

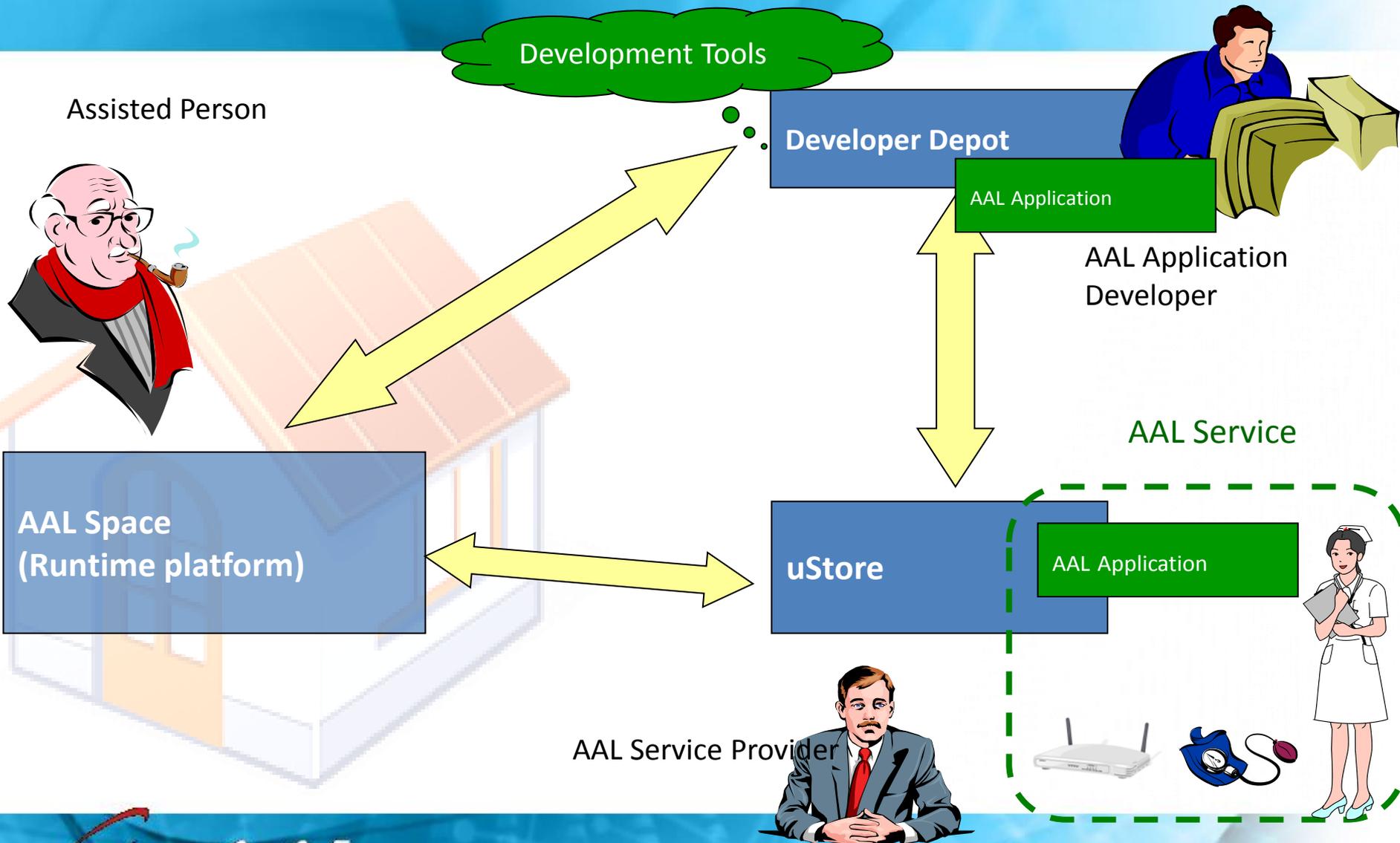
- ❑ Platform Implementation
- ❑ Example Applications
- ❑ Development Tools
 - Eclipse based IDE
 - Developer guides and tutorials
 - Design Patterns
 - Modeling Tools
- ❑ Developer Depot
- ❑ Online Shop for AAL solutions (uStore)

**Open source
(MIT/Apache license)**

Design Objectives



Components of universAAL Platform



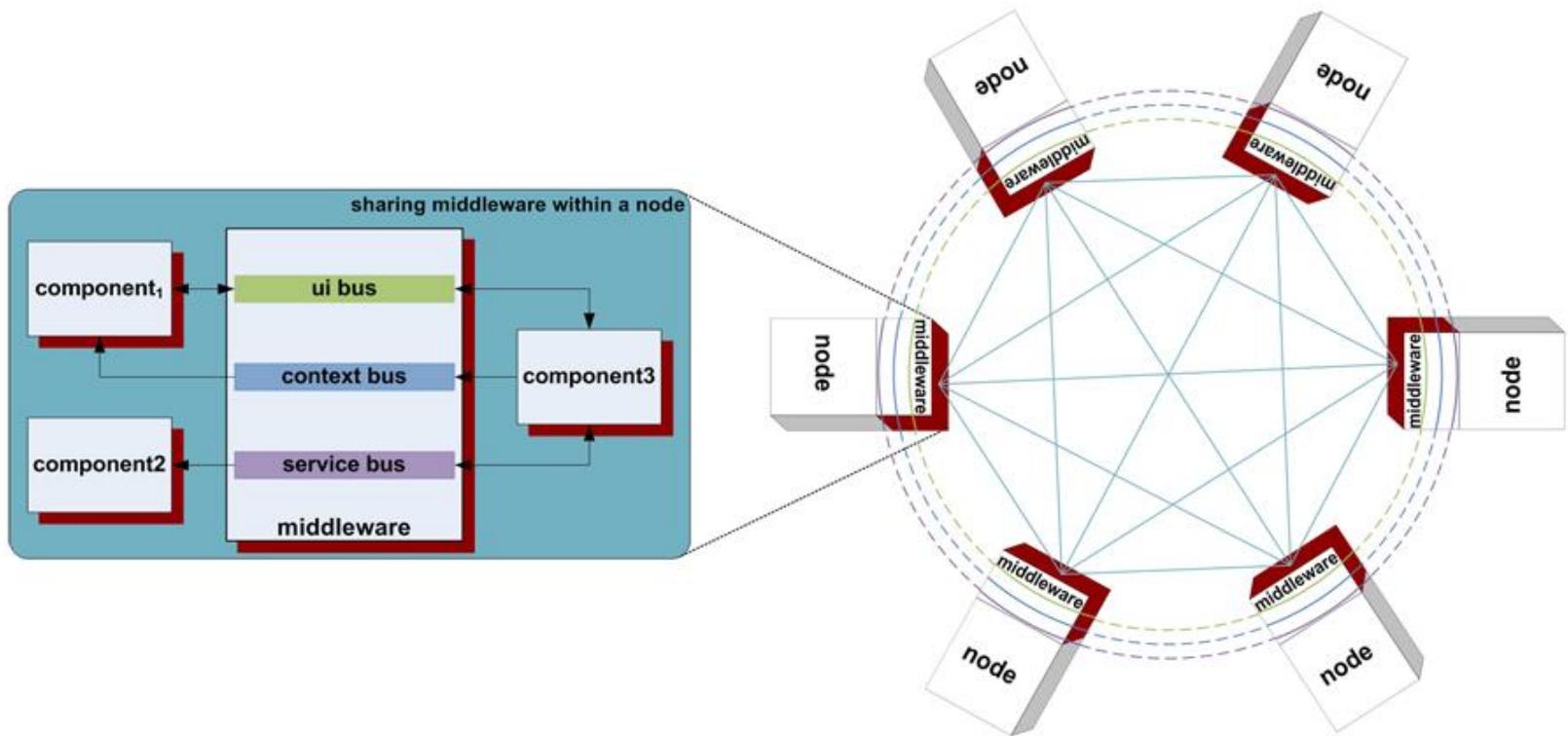
Architectural Overview

- ❑ The **Middleware** is the platform's communication infrastructure
- ❑ Every device that shall *actively* participate in the platform's communication, needs to have the Middleware installed on it
- ❑ Such a device is referred as “**universAAL node**”
- ❑ Nodes distributed in a specific area (e.g. home) formulate an **AAL Space**

Middleware Overview (1/2)

- ❑ Hides heterogeneity and distribution of the nodes
- ❑ Applications running on a node communicate with the Middleware
 - (May be) unaware of the actual device they are running on!
- ❑ Consists of 3 communication channels, called **Buses**
 - Context Bus
 - Service Bus
 - UI Bus
- ❑ Each of these is responsible for transferring a specific type of message

Middleware Overview (2/2)



Tools Overview

□ Purpose

- create new AAL applications that run within the universAAL platform system
- provide support to make development, deployment and maintenance easy and robust

□ 3 main groups

- Tools for developers
 - AAL Studio suite (easy access, tasks efficiency)
 - Developer Depot (easier execution thanks to resources available)
- Tools for AAL service providers
 - uStore (marketplace for vendors, one-stop shop for buyers)
- Tools for deployers
 - universAAL Control Center (testing)

uStore

- ❑ AAL services of all kinds
 - hardware, software, human resources, and devices
- ❑ **Wide group of stakeholders**
 - Assisted person
 - Formal and Informal caregivers – relatives
 - Formal caregivers - individuals (M.D, specialists, GP...)
 - Formal caregivers - institutions (Hospital, Nursing home...)
 - Assistance providers - Healthcare providers;
 - Assistance providers - Social and wellbeing institutions
 - Authorities - Legislative and public welfare organizations
 - AAL Community as a whole

Thank You!

Q & A's

UNIVERSAAL

UNIVERSal open platform and reference Specification for Ambient Assisted Living

Home Reference Use Cases Scenarios Press Room About

Developer Depot
Free resources and code samples to develop innovative AAL Services

AAL Showroom
Discover what our platform can do for you and your business

uStore
A global marketplace for vendors and a one-stop-shop for buyers of AAL services

One way to build them all,
One way to bind them,
One store to save them all,
And help the users find them

News & Events
ZB4OSGi

The Goodday Spanish company joined the ZB4OSGi project hosted by AALOA by contributing with their ISO/IEEE 11073 family standard implementation.

New universaal Youtube channel!!
Take a look

universaal Comic
Download for free the
universaal COMIC!!
Download universaal comic

Project Results
The 3rd universaal newsletter is available!
Download (Short version)
Download (Long version)

Deliverables
Attention! We released official version 1.2.0 of universaal Runtime support platform.
It is available through the official universaal Depot

Would you like to know more about universaal platform functionalities?

universaal Community
Join Us

universaal contributes to start up a non-profit AAL Open Association (AALOA) open to individuals, institutions and industry, to provide a meeting point able to catalyse interest and efforts around AAL, promote standardization and identify key areas of research...More...

August 20, 2012
universaal Public Training Day at AAL Forum 2012
If you are interested.

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