Reference Hardware, System Architecture

EG.

AMM 2018 Tokyo
Multiple OEMs and Types of Cars

AGL OEMs

DAIMLER, HONDA, MAZDA, MITSUBISHI MOTORS, NISSAN, SUBARU, SUZUKI, TOYOTA

Types of Cars

Compact · Sports · Luxury
Sedans · SUVs · Crossovers
Electric Cars, Hybrid Cars
If AGL can work on both systems, (just like laptop and desktop) it will solve the problem of the current IVI development workload.
Example of System Architecture

Common requirements

Various hardware requirements

This document is used only for internal discussion in the AGL Reference Hardware System Architecture E/C.
Define Reference Hardware A

- Community Board
- Main Board
- Ext Board

Reference Hardware (for AGLPF)
- Reference Hardware (for luxury spec)
- Reference Hardware (for compact spec)

- Ethernet
- Tuner
- USB
- Deck
- BT/Wi-Fi
- Display
- AV control processor
- Ext Display
- RSE
- GPS
- Display
- Deck
- Camera
- CAN
- Controller
- BT/Wi-Fi
- Tuner
- CAN

Common Requirements
- Various hardware

Tentative
- Spec V0.1.0 (Open Draft) was published on October 18, 2017.
  https://wiki.automotivelinux.org/_media/eg-rhsa/agl_referencehardwarespec_v0.1.0_20171018.pdf

Major Policy: Main board and Extension board can be combined freely.
(b) Reference Hardware Development (2018)

Collaboration between RHSA-EG and Renesas, Intel, Shimafuji

Main Board

R-Car Gen3 Starter Kit (Renesas)

Intel Arch. Main Board (Intel)

Extension Board

Kingfisher Board (Shimafuji)

Common I/F set

<1st step>
We will start development to connect Intel Arch Main Board and Kingfisher.
(b) Reference Hardware Development (next step)

Collaboration between RHSA-EG and SoC vendors

- **Main Board**
  - R-Car Gen3 Starter Kit (Renesas)
  - Intel Arch. Main Board (Intel)
  - Other Main Boards (Other SoC maker)

- **Extension Board**
  - Kingfisher Board (Shimafuji)
  - AGL Reference Ext Board A (e.g. luxury)
  - AGL Reference Ext Board B (e.g. compact)

*Common I/F set*

*works even in stand-alone*

*<next step>*

Eventually the variations of extension boards need to be increased.
Schedule

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<th>2017</th>
<th>Jul-Sep</th>
<th>Oct-Dec</th>
<th>Jan-Mar</th>
<th>Apr-Jun</th>
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- System Architectural Design
- Spec v0.1 (open draft)
- SoC vendors joined
- Define RefHW spec (Common I/F set)
- SW Requirement Extraction
- Intel Main Board Development
- BSP for Main/Ext Board Development
- Demo System Development
- Spec v1.0
- ???
- Demo System Development
- ???
- Demo System Development