Automotive Grade Linux Roadmap for 2019 and Beyond

Automotive Linux Summit
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Before we start...

• Automotive Grade Linux is an open source project which means:
  • Code, code, code
  • Test, Test, Test
  • Commit Early, Commit Often
  • Everything we do is in the open and transparent
Thanks for all the fish...

Agile Albacore – Jan 2016
Brilliant Blowfish – July 2016
Charming Chinook – Dec 2016
Daring Dab – July 2017
Electric Eel – Jan 2018
Funky Flounder – Ocr 2018
Grumpy Guppy – Jan 2019
Happy Halibut – July 2019
Itchy Icefish – Jan 2020
2019 AGL Schedule (Current)

See [https://wiki.automotivelinux.org/schedule#latest_schedule](https://wiki.automotivelinux.org/schedule#latest_schedule) for latest schedule information.
Vision for 2019 & Beyond

• AGL production readiness
  • Speech Architecture
  • Web App Manager
  • Audio – PipeWire vs. 4a –
  • CAN and Vehicle signaling – CAN output + J1939
• API Gap Analysis – Confluence Page
Vision for 2019 & Beyond

• AGL production readiness
  • Long-Term Support for AGL – Confluence Page
• Getting agreement on what AGL will provide as part of LTS
• Alignment with upstream (e.g., Yocto, board vendors, etc)
Vision for 2019 & Beyond

- Instrument Cluster evolution
  - IC EG Started. Requirements definition and architecture work ongoing
  - Konsulko continuing to evolve current IC profile and reference device
  - Hardware reference?

- Telematics, ADAS, and HUD reference devices
  - Telematics Reference Device released with HH
  - Requirements evolving. Need more Tier One support.
  - Hardware reference?

- Next generation SOCs (RCAR gen 4, i.MX8)
Vision for 2019 & Beyond

- Window Manager and Home Screen Services
  - Weston 6.0 + Waltham
  - Consolidated Window Manager and Compositor
  - Reference Home Screen
- Video architecture for IVI, ADAS and Autonomous
  - Will start to be addressed by Collabora work in 2H 2019.
- Sensor fusion architecture
- Smartphone connectivity – Plug in solution for Apple CarPlay and Android Auto
HAPPY HALIBUT
Happy Halibut

- Upgrade to Yocto 2.6 – Thud branch
- Telematics Reference Device
  - Telematics Profile and demo available
- AGL Application Framework
  - Multi-user security rules.
  - AGL no longer runs applications and service binders as root user.
  - Process kill now available from afm-util
  - Task Manager app now available as an installable widget
Happy Halibut

- Weston 6.0 now available
- Waltham transmitter and receiver refactored
  - Fully available in IVI and Instrument Cluster profiles
- Web App Manager
  - Latest Chromium 68 patches included
  - Qt dependencies removed
Happy Halibut Features

• Audio
  • Pipewire is default audio build option
  • Pipewire mixer replaces 4a soft mixer
  • Initial sessionmanager and wireplumber created

• CAN
  • J1939 support added
  • Writing to CAN bus fully supported and secured
Happy Halibut Features

• Test Cases added for numerous AGL Service Binder
  • afb, bluetooth, bluetooth-map, bluetooth-pbap, gps, mediaplayer, nfc, and weather.

• Board Support Packages
  • Renesas RCar3 BSPs updated to v3.19
  • i.MX6 reenabled using etnaviv open source graphics
  • New Support for SanCloud BeagleBone Enhanced
Happy Halibut

New Features Developed

Stabilize

App Development

Start of Development 02.07

Uprev to thud complete 03.22

RC1 06.18

RC2 7.09

RC3 07.19

Final Release 7.31

As of 12 July 2019
Happy Halibut Patch Releases

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Happy Halibut

Patch Updates

App Development

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As of 12 July 2019
ITCHY ICEFISH
Itchy Icefish

• Continue with Yocto 2.6 – Thud branch
• Finish Window Manager and Compositor Consolidation - [Confluence page](#) with latest architecture and design.
• Replace IVI Shell with new Window Manager
• Home Screen Reference Implementation
Itchy Icefish

- Input manager
  - Touch screen, LIN, ADC, and mouse event management
- PipeWire and Session Manager Updates
Itchy Icefish

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Itchy Icefish

New Features Developed

Stabilize

App Development

Start of Development 08.01

RC1 11.22
RC2 12.6
RC3 12.20
RC4 01.25 Final Release 02.07.20

As of 12 July 2019
Call To Action

• YOU can move these projects forward
  • There are Projects that will get done this year because someone or some group is passionate about it.

• Join the automotive-discussions mail list
• Download the code
• Submit changes
• Have Fun!
Q & A
Q & A

• This is the segment where
  • You ask intelligent, well thought out questions
  • I ramble pointlessly and unintelligently

• And/Or
  • You ask “dumb” questions
  • I respond with concise, insightful, and well-reasoned answers
THANK YOU