



Automotive Grade Linux Roadmap for 2021 and Beyond

AGL F2F Workshop

June 15, 2021

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How do we get to the car of the future?

- Pick a time frame – Model Year 27. (i.e., 5 year time frame)
 - Ready for teams to start product development in spring or summer of 2024.
- What the use cases we are enabling?
- What does AGL provide?
- What does OEM and Tier One need to integrate?

Notes:

- MRD for AGL would be helpful.
- Current IVI PR specification is use case based focused on platform or base-system readiness. Toyota eventually would like to expand to higher level use cases.
- Bernard is focused on business use cases connecting drivers to cloud services using Flutter based apps.
- Containerized services – “application service mesh”
- The Envoy project (<https://www.envoyproxy.io>) is another LF project focused on service mesh started by Lyft and supported by a large number of cloud providers.

Notes (June Meeting)

- Fulup surprised not to see cyber security as a priority from the SC.
- Stephane provided link to this article on automotive cyber security (<https://certx.com/automotive/unece-wp-29-r155-how-cyber-security-will-impact-the-automotive-market-as-of-june-2022/>)
- Which EG should own Flutter implementation?
- Lorenzo – should be possible to deploy Flutter as web bundles as an interim step to get something we can demo quickly.

Production Ready

- Can we use flatpak to deploy Flutter apps?
- Gap between Toyota Flutter implementation and Base system that has been released to AGL in Application management areas. May be released by Toyota in the future.
- App developers don't want to know anything about Yocto. They want to be able to write and deploy their apps.
- Open Source (Supply chain?) Cyber security built in
 - Yocto LTS and AGL LTS – Yamaguchi-san: We should think about using Debian rather than Yocto for security updates over a very long term.
 - ISO 21434: Cyber Security in automotive will be required
 - AGL should perform a gap analysis with ISO 21434?
- IC will not use Flutter – do we need to maintain a non-Flutter version
- APIs
- Homework for tomorrow – Bring (at least one) use case that needs to be enabled

Release Planning

- Lamprey
 - Dunfell
 - Renesas BSP (v4.7) - kernel 5.4
 - Incorporate Renesas BSP 5.5 into Lamprey 12.1
 - Lamprey 12.1 has Renesas kernel 5.10 with working demo apps.

Release Planning

- Marlin (Feb 2022 with M1 Dec 15)
 - Dunfell (current Yocto LTS)
 - Renesas BSP (v5.5) – kernel 5.10
 - Early Feb final version (v5.9) with kernel 5.10
 - Include App FW updates from Collabora
 - Demo apps may be less functional than Lamprey
 - Use as basis for Flutter integration – Hopefully initial version of Flutter embedder and demo apps are ready
 - PipeWire and WirePlumber updates
 - IC updates?
 - Multi-container (one IC and one IVI) available
 - Sound manager
 - IC service framework

Release Planning

- Needlefish (Jul 2022)
 - Kirkstone (YP 3.5, next Yocto LTS) – Planned for Apr 2022
 - Renesas BSP in planning, need to confirm we can make the AGL date
 - Additional features from Yocto include Read only PR server, hash equivalency, K3S, public state cache, SBOM – FASTER BUILDS!
 - Flutter improvements.
 - Possible Toyota base system contribution (to be confirmed)

AGL Expert Groups



2021 SC Feature Priorities

1. Flutter
2. VirtIO
3. Common Device Interface
4. Reference Hardware
5. IC DRM Sharing
6. Application Framework
7. Policy Management
8. IVI Specification
9. V2C Identity Management
10. Multi-device Swipe Gestures

THANK YOU

