

Open ADKit Working Group Meeting

23/05/2024 #4769

oguzkaganozt started this conversation in Working group meetings



oguzkaganozt on May 23

Maintainer

edited ▾

Administrative

[Open AD Kit Project Board](#)

[Latest Open AD Kit Documentation - updating](#)

[Team List - WiP](#)

[Call for Participation - Step-by-step ROS Node Configuration Task](#)

Attendees

Chaired by David Walmroth (PIX Moving) and Oğuz Öztürk (Leo Drive)

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Agenda

DevOps Dojos: Build/Run - Modular Images (Oguz, @youtalk)

- The PR needs to be merged ASAP to focus on further stages of containerization -> perception, cloud simulation, webrtc etc.
- Modular containers:
 - Issue: [Provide modular images for openadkit: planning, simulator, visualizer #4538](#)
 - PR: [feat\(docker\): provide modular images for openadkit planning simulator visualizer #4673](#)
 - Documentation PR: [docs\(installation\): simplify run.sh commands autoware-documentation#551](#)
 - A CUDA [bug](#) will be resolved with this [PR](#)
 - A documentation [bug](#) will be resolved with this [PR](#)
 - Enabling caching for monolithic image build process by [@youtalk](#) -> [feat\(ci\): enable Docker build cache to 5 times faster container build #4730](#)
 - Any ways of increasing disk size of github runners ? -> <https://docs.github.com/en/billing/managing-billing-for-github-actions/about-billing-for-github-actions>
- ✓ [@mitsudome-r](#) will be assigned as a reviewer

Category



Working group meetings

Labels

meeting:openadkit-...

3 participants



- ☐ [@samet-kutuk](#) will bring a documentation draft for Open AD Kit v3.0 after merging the PR

Possibility of adding new code maintainers (Oguz, @mitsudome-r)

- As we are gearing towards new phase on Open AD Kit containers we need to increase our code review process
 - Adding new code maintainers or reviewers for the Autoware repo ? - [@mitsudome-r](#)
 - Adding Code review tool to help to speed up the process ?- <https://github.com/marketplace/actions/ai-code-review-action>

DevOps Dojos: Ros Node Configuration Updates (Kasper)

[Spreadsheet for node updates](#)

[DevOps Dashboard](#)

[Call for volunteers](#)


[Step-by-step Documentation](#)

[Step-by-step Video Tutorial](#)

- **Planned deadline for this task is 1st July, we need to speed this up with active collaborators and reviewers**
- We're seeking collaborators from AWF members and non-AWF member organizations: (Samet)
 - EduTech: an email thread is ongoing
 - ELM Company: had several meetings, waiting on feedback
 - CoE members: a few members proposed a handful contributors. Conversations are ongoing
 - Leads from social media: we continue to engage with individuals who shown interest

- ☒ Reach out to Vignesh

Perception Containerization Discussion (Kasper, Oguz, David, CJ..)

- Issue  [Perception Containerization #4646](#)
- Branch <https://github.com/autowarefoundation/autoware/tree/4646-perception-containerization>
- Testing ORIN for perception running with x86 on PIX chassis (Mark, David)
- ☒ Assess the rosbag sent by TIER IV and feedback
- ☒ Retrieve and assess the rosbag from Robeff
- ☐ Reach out to [@drwnz](#) for feedback and initial consult

Testing modular containers with Reaction Analyzer Tool (Oguz, @batuhanbeytekin, @brkay54)

- Reaction analyzer can be used to measure latency tests while developing ideal containerization
- https://github.com/autowarefoundation/autoware.universe/blob/3eed12c36903a3763f0ccd73f7bdce75c0bb3622/tools/reaction_analyzer/README.md#L4

RViz Visualization by using WebRTC (Oguz, Esteve, Kasper)

- Assess the strengths and weaknesses of using [Ros bridge](#) and [rvizweb](#)
- https://github.com/RobotWebTools/webrtc_ros
- <https://github.com/pgaston/teleopros2/tree/main>
- <https://github.com/aiortc/aiortc>
- Jeremy from Amazon has shown interest in the subject with AWS Kinesis
- ☑ Reconnect with Jeremy (AWS) to help us bootstrap this



Active pursuit to find more collaborators for the Open AD Kit WG (Samet, David, Kasper, Oğuz)

- Outreach to external collaborators
 - Talking to **VicOne** (a member) on a use case to incorporate their IDPS (Intrusion Detection and Prevention System) with the Open AD Kit
 - Talking to **EPAM Systems** on the general architectures of SDV and understanding load balancing of automotive workloads in heterogeneous computing.
 - Talking to **TUM** on their PoC work on massive Autoware containerization
 - They are open-sourcing their study and work (performance analysis of containerized Autoware workloads)
 - They will be able to present their work soon at the Open AD Kit WG

More Strict Dependency Control for ROS Nodes (Oguz, Dogan)

- Re-working dependencies to reduce the size of the containers and for making maintenance easier
- The [list](#) of Top 25 ROS nodes that includes most `<depend>` tags
- A new task added to Build/Run Dojo - for refining ros nodes dependencies - [🕒 More Strict Dependency Control for ROS Nodes #4599](#)
- Last years's huge PR related -> [🔗 build: remove unused <depend> in package.xml files autoware.universe#3606](#)
- [Example of the motivation](#)

AWSIM Integration and Testing (Oguz, Mitsudome-san, Kasper)

- AWSIM seems to be working fine on new containers but thorough testing is required to validate
-  [Docker container for AWSIM tier4/AWSIM#7](#)
-  [how to gui for unity3d in docker? mviereck/x11docker#186](#)
- Validating new Open AD containers on the AWSIM environment
- Running AWSIM on x86 and Autoware on ARM

2024 Demo Planning and Activities

- ICRA 2024 (May 13-17): a setup with PIXKit 3.0 will be demonstrated. Storyboard is expected from [@alexandrx](#)
- AutoSens 2024 (May 21-23) Static vehicle display, potentially live sensors, PIX RoboBus platform.
- AutoTech Detroit (June 5-6): Challenges with AADP availability and lead times. Implications and alternatives are being discussed, updates envisioned in Friday meeting.
- (Potential) AVTE California / Aug 28-29
- (Potential) IEEE ITSC / Sep 24-27
- (Potential) IROS 2024 / Oct 14-18
- (Potential) ROSCon / Oct 21-23

Open AD Kit Hardware Availability

- ADLINK presented their autonomy HW lineup in Ref. Des. WG. BSP does not yet support Yocto(?).
- AADP: Allocating all available units around the world
- 7Starlake: we heard that some eval units can be made available for testing
- ☐ Reach out to Joe Speed for 7starlake eval units (BSP/Yocto question pending).

↑ 1

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oguzkaganozt on May 23

Maintainer

Author

- [@idorobotics](#) will review ROS Node configuration spreadsheet and then we can re-assign some of the nodes

↑ 1

1 reply



idorobotics on May 24 Maintainer

Please see my comments in RED.



samet-kutuk on May 23 Collaborator

Tobias from TUM will join us next week to give a presentation about their work on fine-grained Autoware containerization.

If you want to prepare yourself on the topic, please refer to their dissertation:

<https://arxiv.org/abs/2404.12683>

Also, potentially the source code might be made available to ones that are interested in taking a look.

Let me or [@oguzkaganozt](#) know, thanks!



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0 replies