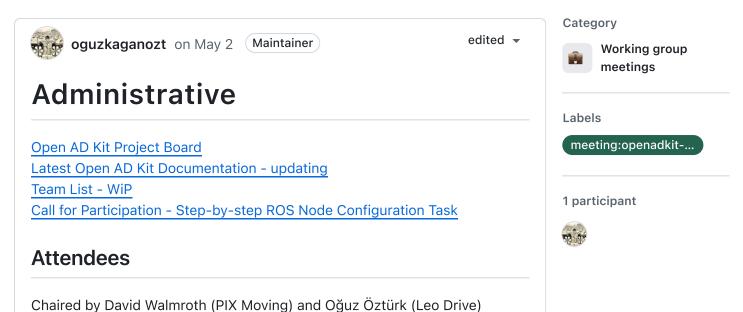


# Open ADKit Working Group Meeting 02/05/2024 #4688

oguzkaganozt started this conversation in Working group meetings



#### **Agenda**

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#### DevOps Dojos: Build/Run - Modular Images (Oguz)

- Impressions on new containers/suggestions.
- Modular containers:
  - Issue: 
     <u>Provide modular images for openadkit: planning,</u>
     simulator, visualizer #4538
  - PR is now live: feat(docker): provide modular images for openadkit planning simulator visualizer #4629
  - Branch:
     https://github.com/autowarefoundation/autoware/tree/4538-provide-modular-images-for-openadkit-planning-simulator-visualizer
- @mitsudome-r and @xmfcx will be assigned as reviewers
- <u>@samet-kutuk</u> will bring a documentation draft for Open AD Kit v3.0 on next week

#### **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

- Great increase (approx. 15) in nodes assigned from efforts of William He and UDel as well as Alex Carballo and Gifu U.
- Campaigning for additional ROS node update support and and consideration of a bounty/reward program may be scaled back due to an envisioned path to completion with existing resources. (Oz).
- 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 invididuals who shown interest

Reach out to Vignesh
Reach out to Rahul (CoE) for his reposting
Reach out to the F1Tenth organization through Slack
Do a repost of Call for Participation on announcement

## 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 - <a>O</a> <a>More Strict Dependency Control for ROS</a> <a>Nodes #4599</a>
  - o Discussions on making this the next DevOps Dojo
- Example of the motivation

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

- · 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

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

- Issue Perception Containerization #4646
- Branch <a href="https://github.com/autowarefoundation/autoware/tree/4646-perception-containerization">https://github.com/autowarefoundation/autoware/tree/4646-perception-containerization</a>
- 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

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

- Assess the strengths and weaknesses of using Ros bridge and rvizweb
- 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

### AWSIM Integration and Testing (Oguz, Mitsudomesan, Kasper)

- O Docker container for AWSIM tier4/AWSIM#7
- O 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

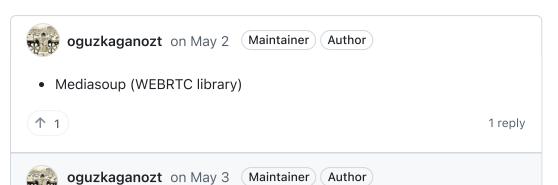
#### 2024 Demo Planning and Activities

- 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 platfrom.
- 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).

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• AWSIM still throws segmentation fault after some time