Category

Labels

app:awsim

5 participants

Show and tell

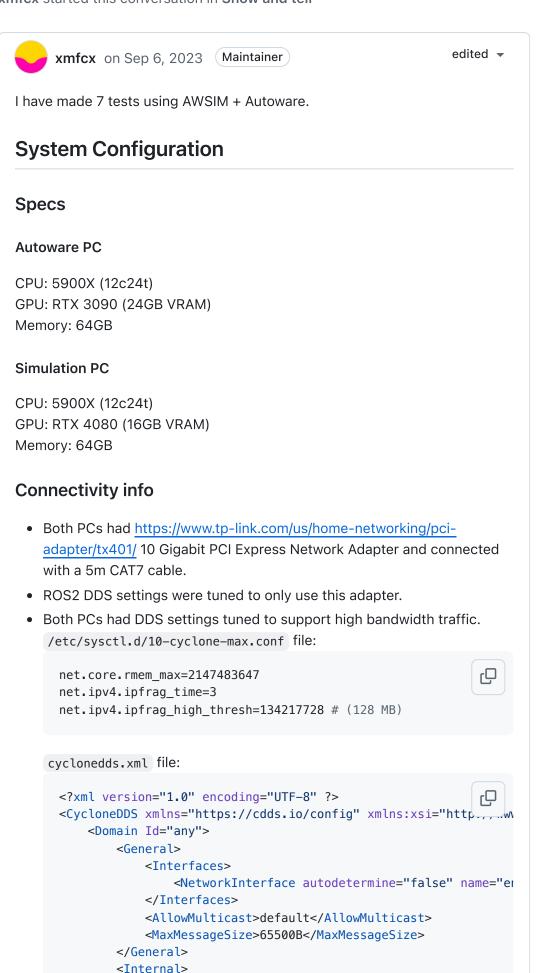
component:percept...
component:planning

meeting:planning-c...

meeting:sensing-p...

Multi PC AWSIM + Autoware Tests #3813

xmfcx started this conversation in Show and tell



<SocketReceiveBufferSize min="10MB"/>

```
<Watermarks>
                <WhcHigh>500kB</WhcHigh>
            </Watermarks>
        </Internal>
    </Domain>
</CycloneDDS>
```

iperf tests were made and saw 9.21 Gbits/sec transfer rates.

Time synchronization

- Used chrony for time sync.
- Autoware PC /etc/chrony/chrony.conf file (Main PC)
- AWSIM PC /etc/chrony/chrony.conf file (Client PC)
- Achieved ~50us time synchronization, shown in the video recordings.

Additional info

- AWSIM Branch: tier4/AWSIM@ b5f5910
- Used following exact commit hashes: https://gist.github.com/xmfcx/ab20652891b2ac2cb00cb7095f71cadd (awsim-stable branch)
- Added https://assetstore.unity.com/packages/tools/gui/graphy-ultimatefps-counter-stats-monitor-debugger-105778 to show the performance graphs
- Made the top lidar into VLS128 and reduced the horizontal res to 0.4 degrees to have better performance.

Tests

For each test, see the video descriptions for the time tags for easy navigation.



8 comments · 10 replies





xmfcx on Sep 6, 2023 (Maintainer) (Author)

edited -

Test 1

https://www.youtube.com/watch?v=qHces72Bmal

00:00 - test

00:42 - ndt faulty init

00:49 - ndt manual reinit

1:07 - test 1 goal pose

1:23 - auto doesnt work

1:56 - test 1 start

3:32 - planning/perception reacts late

4:38 - extremely slow lane change

5:18 - stops in the middle of the road

5:32 - blocks the road because of the empty walkway

6:52 - test 1 end

7:27 - test 2 goal pose

7:47 - test 2 start

8:37 - crashes into other vehicle from side, stops after the crash

10:15 - mission planner doesn't work for lane change, failure ending

↑ 3



mehmetdogru on Sep 14, 2023 (Maintainer)

edited -

1 reply

cc: @xmfcx @TakaHoribe @mitsudome-r

I have created some scenarios for now to kind of initiate the discussions:

Repository commit hashes for the videos:

autoware: <a>0e5ec31

autoware.universe: <u>33f62b43431ba18c353f2df09e7243ca71040969</u> autoware_launch: <u>405e5fbe3a21446d57959faf01b76432a79a3743</u>

3:32 - planning/perception reacts late

- Scenario
- Map (nishishinjuku)
- Video
- Explanation:
 - The issue seems here is that NPC is not stopping for the traffic light. Or traffic light is green for NPC while at the same time it is green for us. So it creates a problem. To simulate the issue I didn't consider the traffic light for the scenario. Needs to be analysed.

5:18 - stops in the middle of the road

5:32 - blocks the road because of the empty walkway

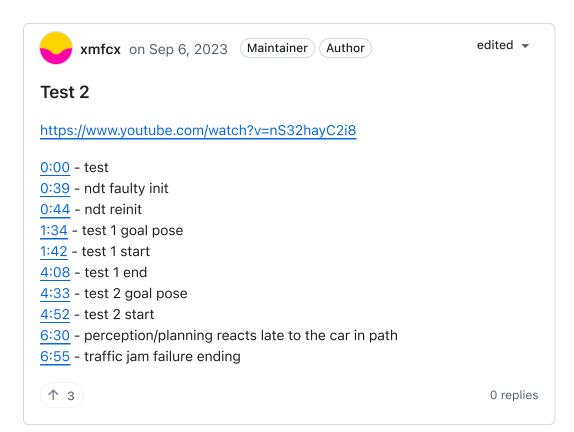
- Scenario
- Map (nishishinjuku)
- Video
- Explanation:

- I couldn't reproduce the problem "stops in the middle of the road". Probably about the obstacles around us. Needs to be evaluated further.
- To walkways by default we are stopping at the moment. Needs to be discussed if necessary.

<u>10:15</u> - mission planner doesn't work for lane change, failure ending

- Scenario
- Map (nishishinjuku)
- Video
- Explanation:
 - In my case, vehicle is getting stuck with the information
 lane_change_right . Probably behavior_path_planner is not able to perform a lane change to the right neighbor lane so it gets stuck before the intersection. Needs further investigation.





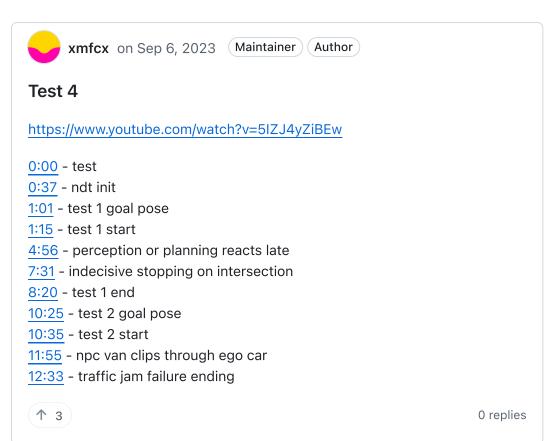


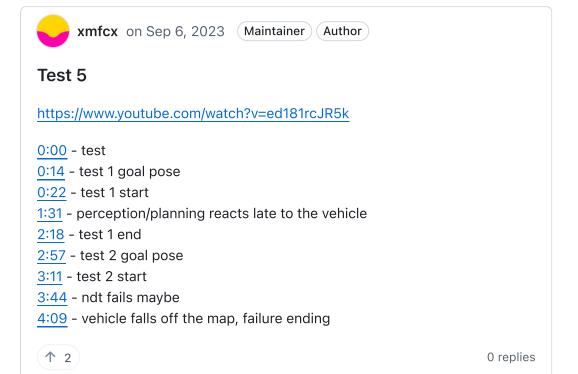
Test 3

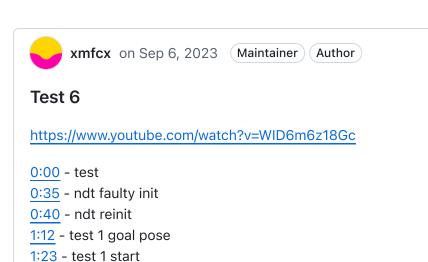
https://www.youtube.com/watch?v=BPVMzYocuUA

```
0:00 - test
0:36 - ndt faulty init
0:41 - ndt reinit
1:07 - test 1 goal pose
1:31 - test 1 start
3:22 - test 1 end
4:58 - test 2 goal pose
5:27 - test 2 start
6:53 - surround obstacle blocks the way (neighbor vehicle)
7:25 - mission planner can't plan lane change, failure ending

• 4
```







2:59 - extremely slow lane change

4:13 - waits in the middle of the road due to empty walkway

5:17 - mission planner failure ending

1 2

0 replies



xmfcx on Sep 6, 2023 (Maintainer) (Author)

Test 7

https://www.youtube.com/watch?v=jiEt1uyHXJE

0:00 - test

0:47 - ndt failure init

0:55 - ndt reinit

1:14 - test 1 goal pose

1:28 - test 1 start

4:01 - test 1 end

4:13 - test 2 goal pose

4:19 - test 2 start

5:08 - reacts late to the vehicle

5:19 - after waiting, still waits extra for the intersection

6:13 - test 2 end

6:29 - test 3 goal pose

6:38 - test 3 start

6:50 - refuses to exit after the stopline, failure ending

1 2

8 replies

Show 3 previous replies



mehmetdogru on Sep 12, 2023 (Maintainer)

edited -

@Autostone-c I am not very well informed about perception related topics but maybe cuda, cudnn or tensorrt versions are mismatching? Could you confirm the versions are as autoware

supports?

And did you get any warning/error during build process of autoware on awsim-stable branch regarding version mismatching?

cc: @kaancolak @xmfcx





xmfcx on Sep 12, 2023 (Maintainer) Author edited -I see that you had:

1694400101.9227071 [component_container_mt-51] [TRT_COMMON] [WARNING]: CUDA initialization failure with error: 35 at L168.

And then,

1694400102.1120832 [ERROR] [component_container_mt-51]: process has died [pid 7027, exit code −11, cmd '/data/cjf/crayonmasp/install/rclcpp_components/lib/rclcpp_components/component_ container_mt --ros-args -r __node:=traffic_light_node_container -r __ns:=/perception/traffic_light_recognition -p use_sim_time:=True -p wheel_radius:=0.383 -p wheel_width:=0.235 -p wheel_base:=2.79 -p wheel_tread:=1.64 -p front_overhang:=1.0 -p rear_overhang:=1.1 -p left_overhang:=0.128 -p right_overhang:=0.128 -p vehicle_height:=2.5 -p max_steer_angle:=0.7'].

I'm not sure why that happened but you might want to isolate and debug that node. I don't have experience running Autoware in Jetson Orin. @miursh san do you have any idea?



miursh on Sep 12, 2023 (Collaborator)

Sorry I don't have any experience with Orin either. @manato @dan-dnn Do you have any idea about this?



miursh on Sep 12, 2023 (Collaborator)

edited -

CUDA error35 looks like some kind of driver error.

Could you confirm that other ML packages or CUDA samples will work?



Autostone-c on Sep 12, 2023

i will test and verify it



@xmfcx Just as mentioned in today's Planning / Control WG today, there could be some issues that might have been solved in the latest branch. I have created the tag for 2023.09.14 from the latest main branch, and confirmed that it works on AWSIM v1.1.0 release.

It might be better if you can use the tag if you plan to do future tests.



1 reply



mitsudome-r on Sep 14, 2023 (Maintainer)

https://github.com/autowarefoundation/autoware/tree/2023.09.14