

The output frequency of occupancy_grid_map_outlier_filter is abnormal #3409

✓ Answered by maxime-clem beginningfan asked this question in Q&A

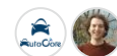
Category

Q&A

Labels

None yet

2 participants



beginningfan on Apr 7, 2023 Collaborator

I use "clear && ros2 launch autoware_launch autoware.launch.xml map_path:=banqiao-circle/ vehicle_model:=sample_vehicle sensor_model:=sample_sensor_kit" to launch perception module. Then the output frequency of occupancy_grid_map_outlier_filter is abnormal.



The occupancy_grid_map_outlier_filter node has two input topics, /perception/obstacle_segmentation/single_frame/pointcloud_raw and /perception/occupancy_grid_map/map. Both two inputs are 10 Hz, but output topic /perception/obstacle_segmentation/pointcloud is less than 1Hz.

```
fanliangliang@beginningfan:~$ ros2 topic hz /perception/obstacle_segmentation/single_frame/pointcloud_raw
average rate: 10.040
min: 0.097s max: 0.104s std dev: 0.00231s window: 12
average rate: 10.014
min: 0.082s max: 0.117s std dev: 0.00720s window: 22
average rate: 10.019
min: 0.082s max: 0.117s std dev: 0.00638s window: 33
average rate: 10.035
min: 0.082s max: 0.117s std dev: 0.00711s window: 44
^Cfanliangliang@beginningfan:~$ ros2 topic hz /perception/occupancy_grid_map/map
average rate: 10.021
min: 0.082s max: 0.116s std dev: 0.01055s window: 11
average rate: 10.002
min: 0.082s max: 0.116s std dev: 0.00934s window: 22
average rate: 10.011
min: 0.082s max: 0.116s std dev: 0.00947s window: 33
average rate: 10.007
min: 0.082s max: 0.116s std dev: 0.00889s window: 43
^Cfanliangliang@beginningfan:~$ ros2 topic hz /perception/obstacle_segmentation/pointcloud
average rate: 0.181
min: 4.151s max: 6.916s std dev: 1.38256s window: 2
average rate: 0.241
min: 1.399s max: 6.916s std dev: 2.25223s window: 3
average rate: 0.290
min: 1.341s max: 6.916s std dev: 2.29986s window: 4
average rate: 0.329
min: 1.341s max: 6.916s std dev: 2.21305s window: 5
average rate: 0.360
min: 1.341s max: 6.916s std dev: 2.10767s window: 6
average rate: 0.388
min: 1.341s max: 6.916s std dev: 2.00876s window: 7
^Cfanliangliang@beginningfan:~$
```

Has anyone encountered this problem? What is the reason for the low output frequency and how should it be resolved?

↑ 2

✓ Answered by maxime-clem on Apr 10, 2023

This is very strange. Are you using the latest version of autoware ? If not please update autoware.universe and rebuild the occupancy_grid_map_outlier_filter to see if it makes a difference.

Otherwise, please check the content of

build/occupancy_grid_map_outlier_filter/cmake args last and confirm

[View full answer ↓](#)



maxime-clem on Apr 7, 2023

Collaborator

It is hard to say what is the problem without more information.
Here are things you can check:

- make sure you built everything in `RELEASE` mode;
- check if the `occupancy_grid_map_outlier_filter` uses too much memory or CPU;
- check if your RAM is full and if swap is being used;
- rebuild everything from scratch (`rm -rf build install`).



1

10 replies



Show 5 previous replies



beginningfan on Apr 10, 2023

Collaborator

Author

I got the same result on another computer with a CPU of i7-9700E

```
root@beginningfan:/my_autoware# ps -aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.0   4964  3224 pts/0    Ss+  08:26   0:00 /bin/bash
root       78  0.0  0.0   5872  3840 pts/1    Ss   08:26   0:00 bash
root      155  0.0  0.0   5804  3640 pts/2    Ss   08:26   0:00 bash
root      316  0.1  0.1 2888452 48892 pts/1    Sl   08:27   0:02 /usr/bin/python3 -c from ros2cli.daemonize import main; main() --name ros2-daemon --ros-domain-id 47 --rmw-implementation
root     484  0.0  0.0 21260 16744 pts/2    S+   08:28   0:00 /usr/bin/python3 /opt/ros/humble/bin/ros2 run tf2_ros static_transform_publisher 0 0 0 0 0 map_base_link
root     485  0.0  0.0 621820 13196 pts/2    S+   08:28   0:00 /opt/ros/humble/lib/tf2_ros/static_transform_publisher 0 0 0 0 0 map_base_link
root    1084  0.0  0.0  5884  4316 pts/3    Ss   08:31   0:00 bash
root    1252 95.2  0.0 716992 26736 pts/1    R+   08:40   1:39 ./install/occupancy_grid_map_outlier_filter/lib/occupancy_grid_map_outlier_filter/occupancy_grid_map_outlier_filter_node
root     1293 0.0  0.0  7184  3196 pts/3    R+   08:51   0:00 ps -aux

root@beginningfan:/my_autoware# lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         39 bits physical, 48 bits virtual
Byte Order:            Little Endian
CPU(s):                16
On-Line CPU(s) list:   0-15
Vendor ID:             GenuineIntel
Model name:            11th Gen Intel(R) Core(TM) i7-11800H @ 2.30GHz
CPU family:            6
Model:                141
Thread(s) per core:    2
Core(s) per socket:    8
Socket(s):             1
Stepping:              1
CPU max MHz:           4600.0000
CPU min MHz:           800.0000
```

```
adLink@adLink-mvp-612a:/autoware# ps -aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
adLink         1  0.0  0.0   4248  3412 pts/0    Ss+  16:05   0:00 /bin/bash
adLink    109  0.0  0.0   4496  3928 pts/1    Ss   16:42   0:00 bash
adLink    577  0.0  0.0   7936  2108 pts/1    Ss   16:43   0:00 dbus-launch --autolaunch 4fc929f178b640f3b83e352bc62380fb --binary-syntax --close-stderr
adLink    578  0.0  0.0   7112  2400 ?        Ss   16:43   0:00 /usr/bin/dbus-daemon --syslog-only --fork --print-pid 5 --print-address 7 --session
adLink    597  0.3  0.0 25728 22480 pts/1    S+   16:47   0:00 /usr/bin/python3 /opt/ros/galactic/bin/ros2 run occupancy_grid_map_outlier_filter occupancy_grid_map_outlier_filter_node
adLink    598 99.7  0.0 633180 28284 pts/1    R+   16:47   0:59 /autoware/perception/install/occupancy_grid_map_outlier_filter/lib/occupancy_grid_map_outlier_filter/occupancy_grid_map_outlier_
adLink    608  0.0  0.0   4368  3676 pts/2    Ss   16:47   0:00 bash
adLink    655  0.0  0.0   6148  2968 pts/2    R+   16:48   0:00 ps -aux

adLink@adLink-mvp-612a:/autoware# lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
Address sizes:         39 bits physical, 48 bits virtual
CPU(s):                8
On-Line CPU(s) list:   0-7
Thread(s) per core:    1
Core(s) per socket:    8
Socket(s):             1
NUMA node(s):          1
Vendor ID:             GenuineIntel
Model:                158
CPU family:            6
Model name:            Intel(R) Core(TM) i7-9700E CPU @ 2.60GHz
Stepping:              13
CPU MHz:               4213.316
CPU max MHz:           4400.0000
CPU min MHz:           800.0000
```



maxime-clem on Apr 10, 2023

Collaborator

I will try to test on another computer when I get the time.
Is it possible that my way to reproduce the issue is wrong ? Are you testing using the same bag you shared ?



beginningfan on Apr 10, 2023

Collaborator

Author

Maybe it's my fault. I downloaded a prebuild docker image, and got the same result as yours.
But the only difference is how to build. I have built it in release mode, how can that be?



maxime-clem on Apr 10, 2023 Collaborator

This is very strange. Are you using the latest version of autoware ? If not please update `autoware.universe` and rebuild the `occupancy_grid_map_outlier_filter` to see if it makes a difference. Otherwise, please check the content of `build/occupancy_grid_map_outlier_filter/cmake_args.last` and confirm the `-DCMAKE_BUILD_TYPE` .

✓ Marked as answer

Answer selected by **maxime-clem**



beginningfan on Apr 11, 2023 Collaborator Author

Thank you very much! I updated the code and it works!



1