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Difference between spin and rate.sleep in ROS

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I am new to ROS and trying to understand this powerful tool. I am confused by the spin and rate.sleep functions. Could anyone help me with difference between those two functions and when to use which? Thanks.

ros

asked Apr 22 '14 at 18:03



Stephen127

65 2 9

1 Answer

```
ros::spin()  
and  
ros::spinOnce()  
are
```

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messages. If you are subscribing messages, services or actions you must call `spin` to process the events.

While `ros::spinOnce()` handles the events and returns immediately, `ros::spin()` blocks until `ros` invokes a shutdown. So `ros::spinOnce()` gives you more control if needed. More on that matter here: [Callbacks and Spinning](#).

`rate.sleep()` on the other hand is merely a thread sleep with duration defined by a frequency. Here is an example

```
ros::Rate r(10);
while(ros::ok())
{
    r.sleep();
}
```

This loop will be executed 10 times a second or less, depending on the system load.

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track of how
much time
since last
`rate.sleep()`
was executed
and sleep for
the correct
amount of
time to hit the
24 Hz mark.
See
`ros::Rate::sleep()` API.

The
equivalent
way in the
time domain
is
`ros::Duration`
`::sleep()`

```
ros::Duration  
while(ros::ok)  
{  
    duration  
}
```

Which one
you use is
just a matter
of
convenience.

edited Jul 3 '17 at 6:18



Pang

6,622 15 63 98

answered Apr 29 '14 at 13:17



cassinaj

788 5 12

