The rostune package: Monitoring systems of distributed ROS nodes

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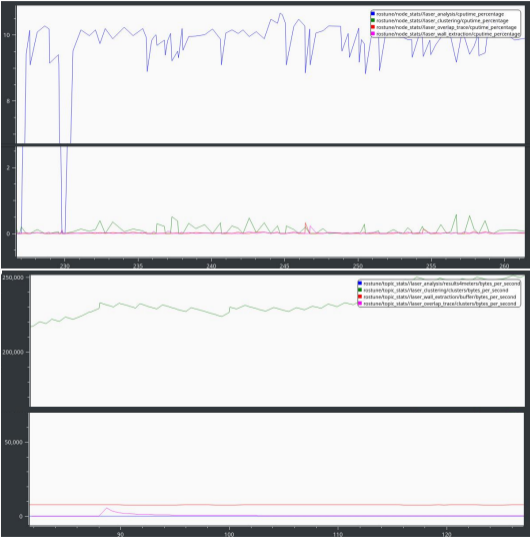
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Introduction

- ▶ Supports understanding distributed ROS systems' performance
  - ▶ Collects CPU, RAM and network statistics.
- ▶ Universal topic listener
  - ▶ No message definitions needed
  - ▶ Collects bandwidth statistics for all topics
- ▶ Behaves correctly in multi-core multi-server environments
  - ▶ One rostune instance per machine
  - ▶ Each instance reports statistics only for topics that nodes on this machine have subscribed to.
  - ▶ Filters CPU and RAM statistics only for nodes that are running on the same machine as the rostune instance.

PlotJuggler visualization

RADIO Use Case

- ▶ Extensive processing, both on-board and using off-board processing units available at the home.
- ▶ An informed decision needs to be made about which nodes should be on-board and which off-board
  - ▶ On-board NUC capabilities and battery autonomy
  - ▶ Wifi bandwidth, latency, and availability limitations

Thank you for your attention.

Acknowledgements and References

http://radio-project.eu
https://github.com/radio-project-eu
https://github.com/roboskel/rostune