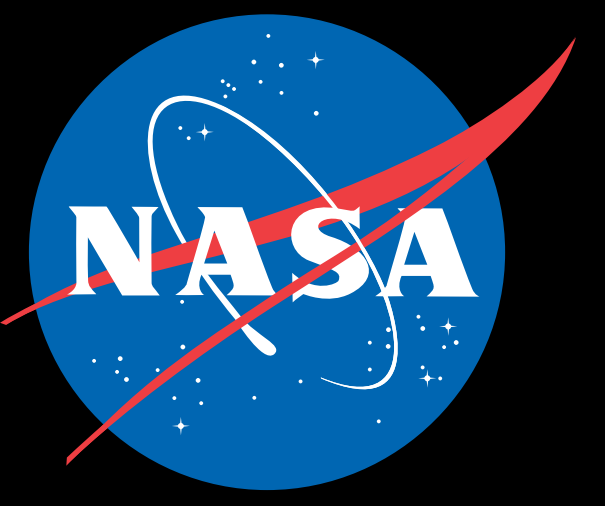




Space Technology Mission Directorate Game Changing Development Program Space ROS – ACO: Space Robot Operating System

Project Overview :: ✨ spaceROS

Space ROS is a matured version of ROS 2 using flight software engineering practices to facilitate mission- and safety-critical applications. Our goal is to reduce the barrier to maturation and infusion of software developed using the popular ROS framework.

Technical Approach



Space ROS Provides:

- A fork of ROS 2 and select packages, matured to flight standards, and benchmarked on flight-like avionics
- A framework for applications meeting space software constraints, and requirements that also supports complex distributed systems
- Tools and processes for V&V and Continuous integration
- Defined quality standards, and guidelines for contributing
- Guidance for designing mission-agnostic, re-usable software packages

Contributing Partners and/or Infusion Plans

NASA ARC, GSFC, JSC, Blue Origin, and Open Robotics

Additional Information

Space ROS has been deployed using the Distribute Spacecraft Autonomy testbed for scalability testing and benchmarking



Space ROS has implemented memory pooling, integrated with NASA V&V tooling for static analysis, and the Gazebo simulation Framework

