Maintenance Guide

Adapting to New Operating Systems

To support a new operating system :

1.Recompile the Software: Ensure you have the necessary build tools for the new OS and recompile the AOS software.

2. Install Dependencies: Verify and install all required dependencies for ROS2 and the AOS system on the new OS.

3. Test Thoroughly: Run comprehensive tests to ensure all functionalities work correctly on the new platform.

Integrating New Databases

To add support for a new database :

1. Modify Data Storage Interface: Update the data storage interface to interact with the new database.

2. Configure Access Control: Ensure the access control mechanism recognizes and correctly handles the new database.

3. Test Integration: Thoroughly test all database interactions to confirm seamless integration and performance.

Optimizations

For optimizing the AOS system:

1. Reduce Resource Usage: Minimize unnecessary data cloning and use more efficient data types (e.g., string slices instead of String).

2.Streamline Code: Refactor code to reduce complexity and improve readability.

3. Enhance Concurrency: Optimize the use of locks and threads to improve performance without sacrificing stability.

Updating Local Variables Persistence

To add consistency options for local variables:

1. Update AM File: Add a `consistency` attribute to each local variable definition with options: `false`, `DB`, or `ROS`.

2. Implement Persistence: Modify the system to handle the new `consistency` options by saving variables to MongoDB or ROS parameters as specified.

3. Test Changes: Ensure that local variables behave as expected across different skills and persistence settings.