

Eclipse iceoryx™

A high performance zero-copy middleware.

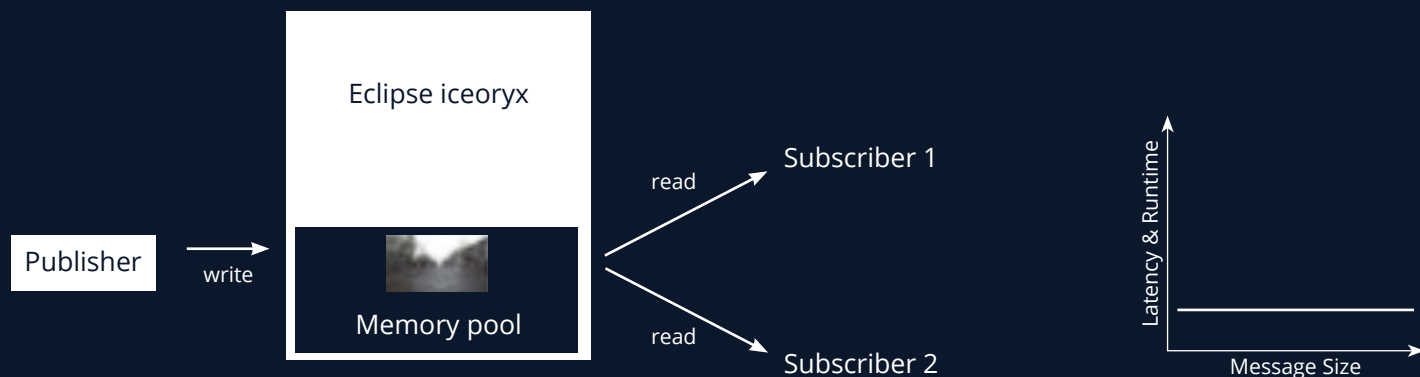
The Problem

Typical middlewares work with copies for every subscriber, leading to a high runtime and latency when transferring large amount of data.



The Solution

Eclipse iceoryx uses a true zero-copy, data-type-agnostic, shared memory approach that allows to transfer data from publishers to subscribers without a single copy. Eclipse iceoryx enables a virtually limitless data transmission at constant time.



Iceoryx is a project of the Eclipse Foundation and is actively supported by Bosch and Apex.AI. It has its origins in the automotive industry, where large amounts of data have to be transferred. Iceoryx uses a true zero-copy, shared memory approach that allows to transfer data very efficiently from publishers to subscribers without a single copy.

- Advanced Driver Assistance Systems (ADAS)
- Autonomous Driving (AD)
- Drones, robots and industrial automation

Benefits

- Provides publish-subscribe communication with service discovery
- State of the art lock-free algorithms prevent deadlocks
- Supported for Linux, QNX, macOS, Windows support planned for 2021
- Integrated with ROS 2, Eclipse Cyclone DDS™ and Apex.OS
- Source code freely available on GitHub under the Apache 2.0 license
- Iceoryx is governed by the Eclipse Foundation and actively supported by Bosch and Apex.AI
- Automotive functional safety certification planned for 2021 by Apex.AI