

SONY

Fast-RTPS Shared Memory Extension Project - eProsima / Sony -

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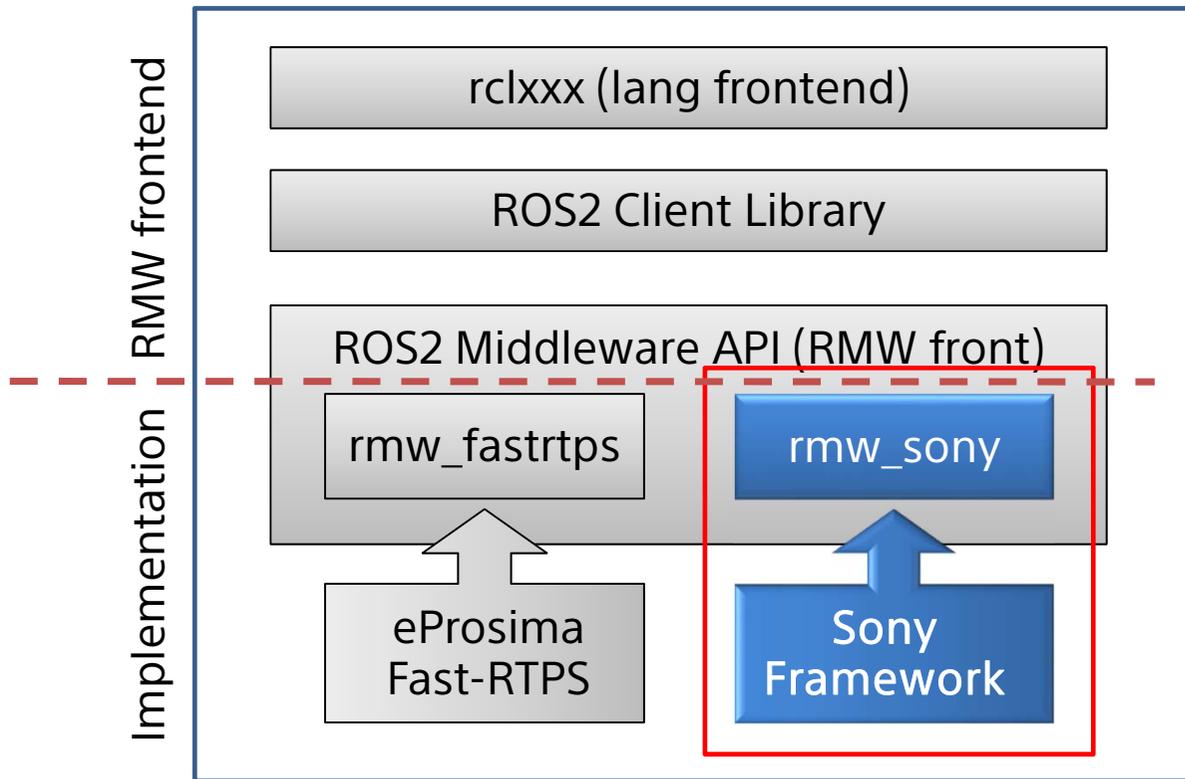
Background

- Data size getting bigger and bigger.
- Data to be shared within processes or tasks.
- Userspace workload 100% running. (ideally)

ProtoType Sony Implementation

- ROS2 RMW Interface

- RMW is the set of API.
- Can connect any implementation. (even Non-DDS prototype)



Let's try out how much we can make it faster with shared memory base framework.

And the we can work on something generic framework if that works.

ProtoType Improvement

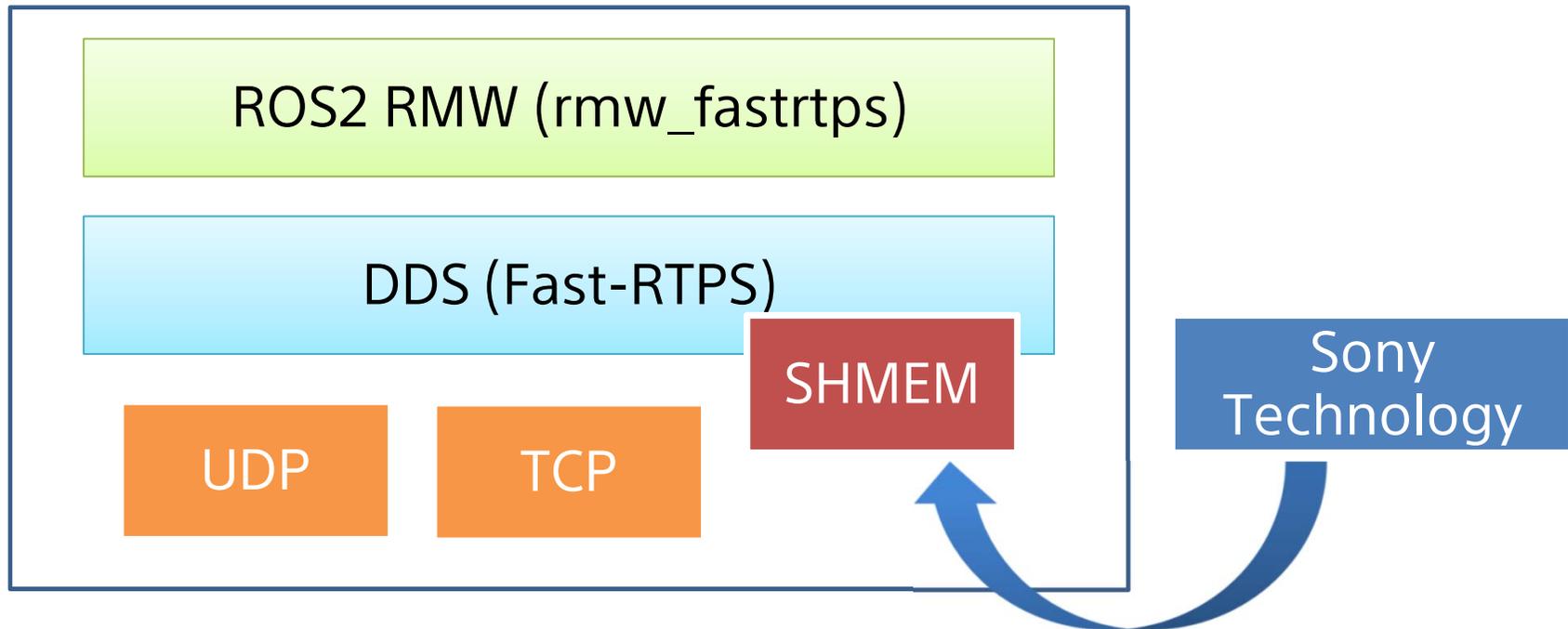
- DDS Expected Improvement

- Publisher:Subscriber = 1:1
- Serializer is Fast-CDR (eProsima)
- Ubuntu18 **ROS2 Dashing**, Skylake, 10000 loops average

Block Size [KB]	Latency [ms]		Throughput [MB/s]	
	rmw_fastrtps_cpp	rmw_sony_cpp	rmw_fastrtps_cpp	rmw_sony_cpp
4	0.055	0.068	80.6	75.7
64	0.072	0.091	968	948
256	0.857	0.075	537	3361
2048	3.078	0.471	710	4253
8192	8.289	2.314	996	3457

Final Goal

- Collaboration with eProxima
- DDS Generic Framework with Shared Memory
- Open Source (Fast-RTPS)





EPROSIMA

The Middleware Experts

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Anyone Welcome

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