

- [Regan Robertson](#) Mod • [14 days ago](#)

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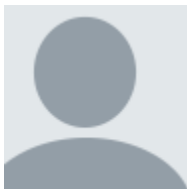
[Stuart Card](#) • [14 days ago](#)

Welcome to our 3rd & final talk. DDS is essential for many applications of seL4. RTI is the dominant supplier of OMG compliant DDS and has been working to bring it to seL4 for several years. On with the show...

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[Stuart Card](#) • [14 days ago](#)

Does a topic have associated seL4 capabilities for reading from & writing to it? If so, can such capabilities themselves (not necessarily in their native seL4 internal form) be shared between seL4 instances on different machines over the DDS?

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[Paul Pazandak](#) [Stuart Card](#) • 14 days ago

Great question. We will explore mapping DDS Security policies to seL4 capabilities. More generally, I'd like to also explore starting from UML modeling of security (under other funding).

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[Arslan Khan](#) • 14 days ago

Q: Do you have any benchmarking results compared to existing techniques or message based buses like MQTT etc.? I am guessing DDS should result in higher throughput..

Q2: When using it as a channel between VM and VMM, how do you see DDS comparing to VirtIO?

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[Paul Pazandak](#) [Arslan Khan](#) • 14 days ago

Hi Arslan, yes I believe our product perf team has this data - please reach out via [seL4@rti.com](mailto:seL4@rti.com) and I can send it to you.

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[Fabrizio Bertocci](#) [Arslan Khan](#) • 14 days ago

We have performance test analysis performed on Linux/Windows/Mac and comparisons with other middlewares, but not on seL4. Regarding the second question, I think the two approaches are (in theory) equivalent, perhaps in terms of performance the DDS solution can be a bit slower than a dedicated virtIO solution (but this has not been evaluated yet). The advantages of using DDS is that you can also get external communication using the same API.

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[Ihor Kuz](#) • 14 days ago

Have you implemented the seL4 native DDS -> DDS in a VM on seL4 communication?

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[Fabrizio Bertocci](#) Ihor Kuz · 14 days ago

Hi Ihor, we have implmented a native DDS Micro (version 2) using as platform the SabreLite (iMX6). We are in progress of porting the newer DDS Micro (version 3) using the Xilinx Zinq ZCU-102. In both cases DDS is a native sel4 app

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[Regan Robertson](#) Mod · 14 days ago

We hope everyone is enjoying the last day of the summit. We are going into the lunch break and will be back at 1pm!

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[Jason H Li](#) · 14 days ago

Great talk! DDS would be very useful in many applications!

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