seL4 IPC Buffer Emulation

How to pass our IPC Buffer?

- The seL4 thread and the kernel emulator are **different Linux processes** (explain in later slides), they have different address spaces.
- Writing to the IPC buffer should **immediately** appear on the kernel emulator's view.
- IPC buffer is **4KB size**, passing as UDS message can be a significant overhead. ✗

The current implementation uses a mapped shared memory to emulate the IPC buffer.

- Efficiently pass the content on the IPC buffer. ✓
- **`Write`** and **`Read`** won't have any concurrency issues. ✓
- Kernel emulators can access the seL4 thread's IPC buffer directly even they are different processes. ✓