Inter-Process Communication Comparison

UNX511 Week 10 Class 2

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July 16, 2025

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Outline

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- We have looked at multiple IPC methods
- We might choose based on convenience or situation
- We should also be aware of performance characteristics
- We should also consider general applicability and scalability
  - If we ever want to run between different machines, we have fewer choices
  - And these days, this might be the deciding factor.

Performance Comparison Code Examples

- Let's have a look in unx511_samples
  - `https://github.com/jsellens/unx511_samples`
- `week10_2/1_fifo` – msg 260 bytes
- `week10_2/2_pipe` – msg 260 bytes
- `week10_2/3_queue` – msg 300 bytes
- `week10_2/4_stream` – unix domain socket – msg 260 bytes
- `week10_2/5_datagram` – datagram to 127.0.0.1 – msg 260 bytes
- `week10_2/6_stream_network` – set your machine's IP address in the code – msg 520 bytes
- `week10_2/7_datagram_network` – set your machine's IP address in the code – msg 520 bytes

References

- `https://github-pages.senecapolytechnic.ca/unx511/Week10/Week10.html`
- Comparing and Evaluating the Performance of Inter Process Communication Models in Linux Environment
  `https://github-pages.senecapolytechnic.ca/unx511/Week10/comparison/ComparingIPC.pdf`

Summary

- Seems like the more complicated and general the protocol, the slower
- Which kind of makes sense
- If packets go off the local machine, should be slower