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LINUX HARDWARE AND SOFTWARE IN TRADING SYSTEMS



- Linux software development is often targeted for Enterprise customers
- Different needs for latency, different hardware support.
- Low level: FPGA, GPU, device direct access.
- Noise issues.

MODIFICATIONS FOR TRADING

- Special networking hardware (Solarflare, Mellanox, FPGA)
- Network stack reconfiguration
- Network stack replacement
- System reconfiguration for lower latency
- Power management to lower latency

TRADING COMMUNITY THINKING

- We can do it ourselves.
- And we do it better than anyone else
- We know tricks that we wont share with others
- And therefore we will not communicate, cooperate or share.



CONSEQUENCES

MISTAKES, HEROES, FAILURES



HOW TO MAKE LIFE EASIER FOR US

- Participate in communities (maybe we can do something in the context of STAC)
- Mailing lists?
- But that is public.
- Anonymous by becoming customers of major distributions (Redhat?) and submitting bug reports.

- Software is complex
- Operating systems are complex
- You cannot hire enough people to do it all on your own.
- We need to cooperate to get a superior operating system for our needs.



Some Trading Specific Software

R

C++

OMQ

Java

Components:

Libquant

libfix



CONCLUSION

- Future tech for Trading: OSV, Virtualization, Improve RDMA
- Talk, Communicate
- Feedback
- Suggestions