CSE 291: Operating Systems in Datacenters

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Agenda for Today

- Reminders
- Background on datacenter networking
- eRPC discussion
- PRISM discussion
Reminders

• First Day Survey #FinAid
  • Due Friday 10/7
• Warm-up assignment
  • Due Tuesday 10/11 at 11:59 pm
• Projects
  • See notes on Canvas tonight
  • Start thinking about your topic
  • Proposals due on 10/20
• Paper reviews
  • No need to summarize the paper
  • Focus on your opinions and thoughts about it
Datacenter Networking
Incast

- Incast: when a server receives incoming traffic from many senders at once (e.g., 10s-100s)
- Often triggered by one server requesting data from many others
- What problems can this cause?
  - Dropped packets at the switch
  - Queueing delays
Priority Flow Control (PFC)

• RDMA was designed to operate over a lossless network
• How does RoCE prevent packet drops with Ethernet?
  • PAUSE frames
• Drawbacks of PFC
  • Head-of-line blocking
  • Deadlocks
  • Etc.
eRPC Discussion
PRISM Discussion