

# Advancing Technologies for AI/ML Clusters and High- Performance Data Centers

Side Meeting@IETF 117

15:30 - 17:00 Monday, July 24, 2023

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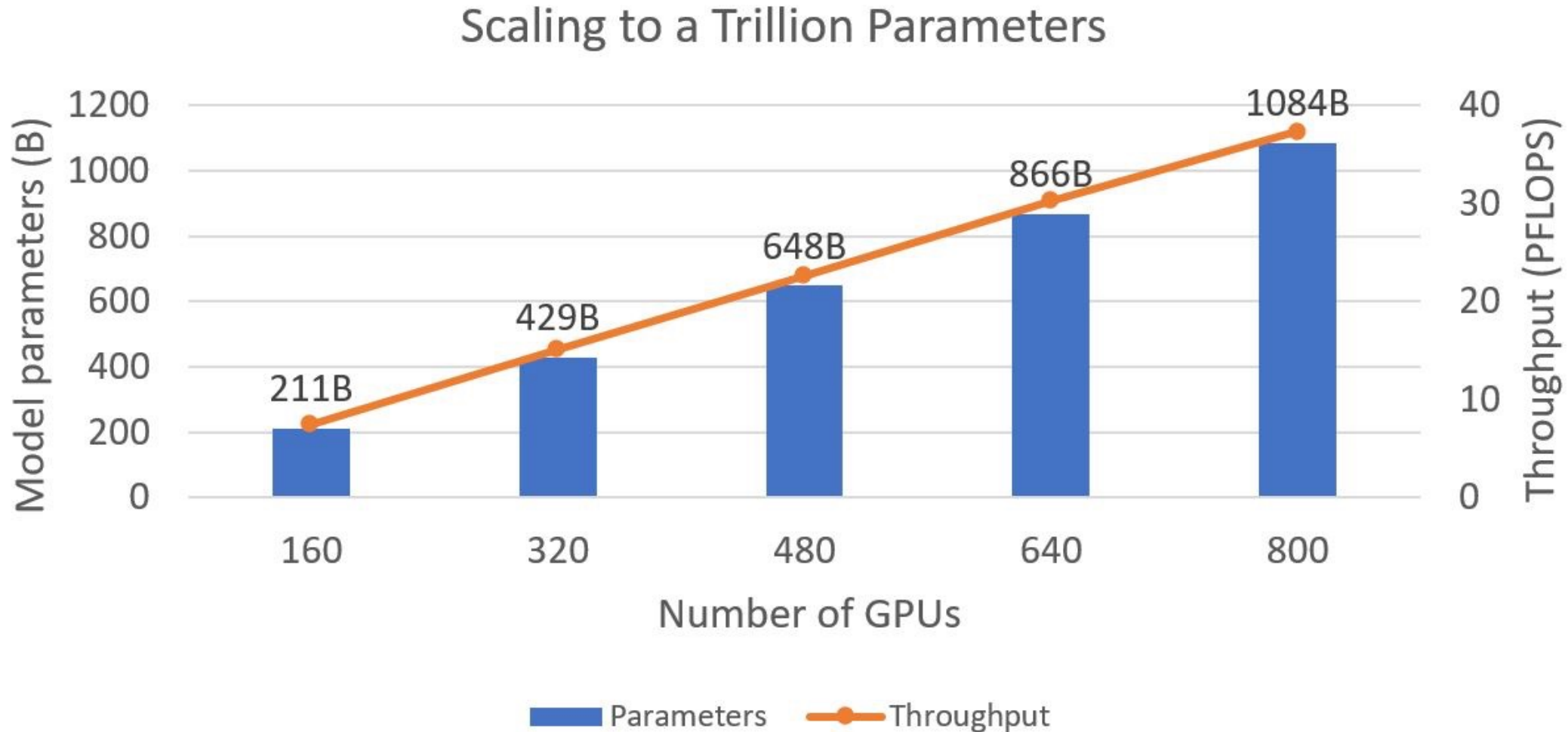
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# Agenda

- **Chairs**
- **Networking in AI/ML Cluster**  
Barak Gafni (Nvidia) (20 mins)
- **Routing in Dragonfly Topology**  
Dmitry Afanasiev (20 mins)
- **Aster!Network: efficient large-scale datacenter network for AI/ML**  
Baojia Li (Tencent) (10 mins)
- **DC Routing**  
Tony P (Juniper) (10 mins)
- **New Requirements and Thoughts for AI Data Center Networks - From a service provider's perspective**  
Weiqiang Cheng (China Mobile) (10 mins)
- **Open Discussions (15 mins)**

# What drives the network size? Model size (params)



# AI networking – what is different?

- **Performance optimized vs cost optimized (RDMA semantics)**
  - cost of bit lost
  - cost of bit delayed
- **JCT drives the networking**
  - throughput != goodput != JCT
- **Under-subscription is not an option – 90%+ utilization is mandatory for network bound jobs**
  - every kW spent on networking is not spent on GPUs
- **Many different networks**
- **Platform play -> communication libraries + smartNICs + switches**

# Meeting Materials

[GitHub Repository: AIDC-IETF117](#)