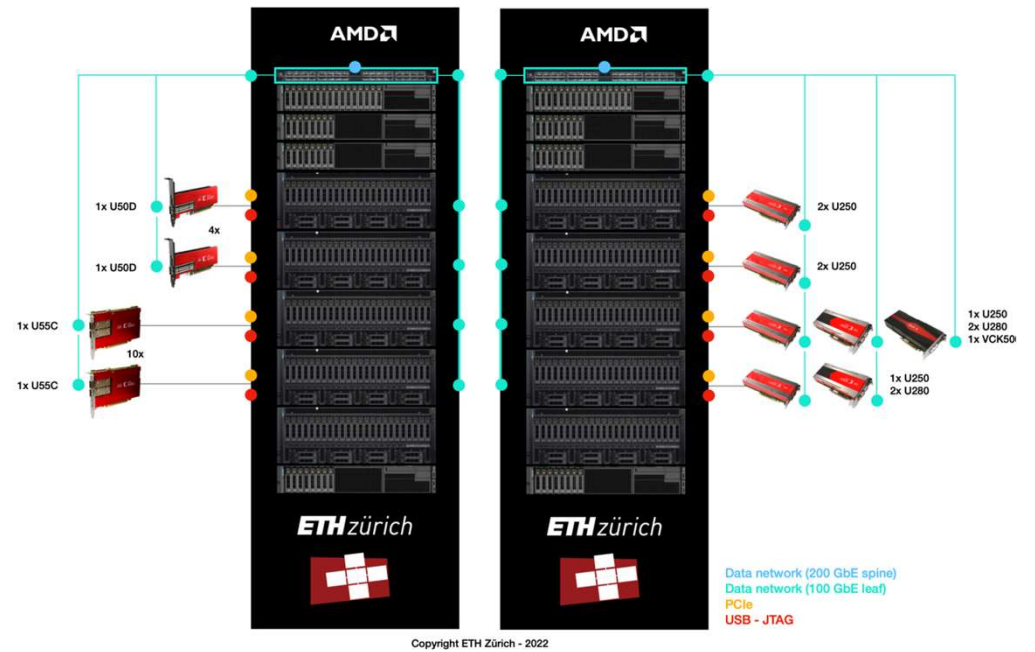




# Demo – EasyNet and ACCL over HACC

Zhenhao He



# EasyNet Demo - Iperf

- Booking systems
- HACC cluster IP arrangement
  - FPGA IP pre-allocated
    - `echo $FPGA_0_IP_ADDRESS`
- FPGA Iperf client – CPU Iperf server
  - Run iperf on alveo-build-01
    - `iperf -s -B 10.253.74.5`
  - Run the iperf kernel on FPGA
    - `iperf_client.sh <target IP> <num con> <packet size>`
  - Varying number of connections and packet size
- FPGA Iperf client – FPGA Iperf server
  - Run iperf on two FPGAs
    - `iperf_server.sh`
  - Varying number of connections and packet size



# ACCL Demo

- Validate MPI on HACC
  - *sgutil validate mpi*
- Test suit available
  - <https://github.com/Xilinx/ACCL/tree/dev/test>
- Correctness verification
  - Host – ACCL – host (H2H)
    - Create host buffer
    - Offload to hardware
    - Invoke collective
    - Sync back to host
    - Verification
- Performance evaluation
  - Hardware benchmark kernel added between client arbiter and CCLO
  - Hardware counter to measure the start-end signal to/from CCLO

