• FPGAs: high performance and energy efficiency
  • Attractive platform in a cloud environment
  • Increasingly popular in datacenters (Intel Xeon+FPGA, Microsoft Catapult, …)

• Two obstacles to mass adoption as computing platform in the cloud
  • Development is time consuming and requires vast hardware expertise
  • Lack of facilities to simultaneously share an FPGA, to increase device utilization
VERT: VIRTUALIZED EXECUTION RUNTIME FOR FPGA

• Design flow supporting both RTL and DSLs (no hardware expertise needed)

• Dynamic management of FPGA resources
  • Virtualization
  • Sharing
  • Protection
  • Dynamic resource allocation

• Working, end-to-end implementation @ Demo night