

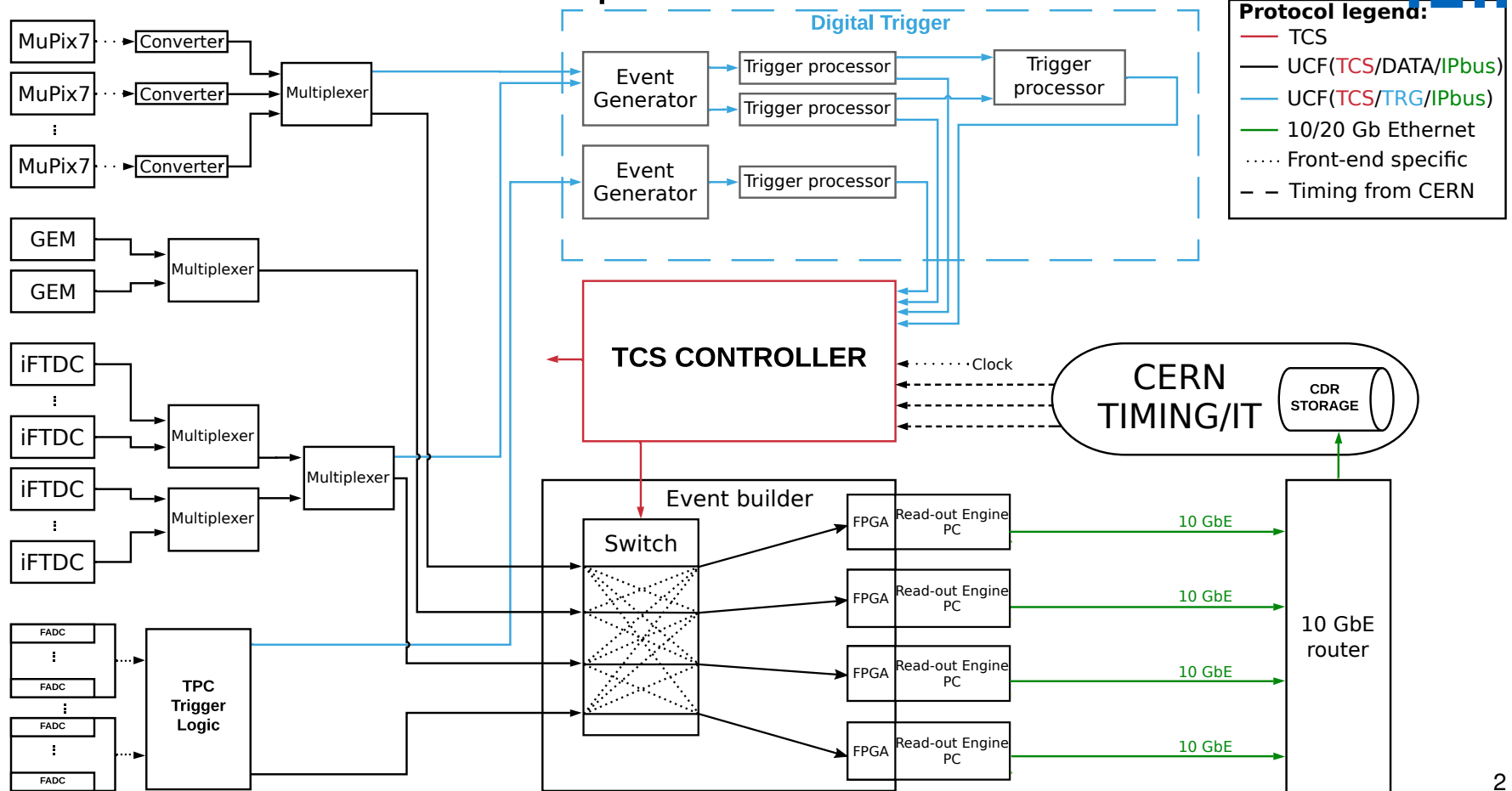
# High-Performance Event Builder Switch Tests

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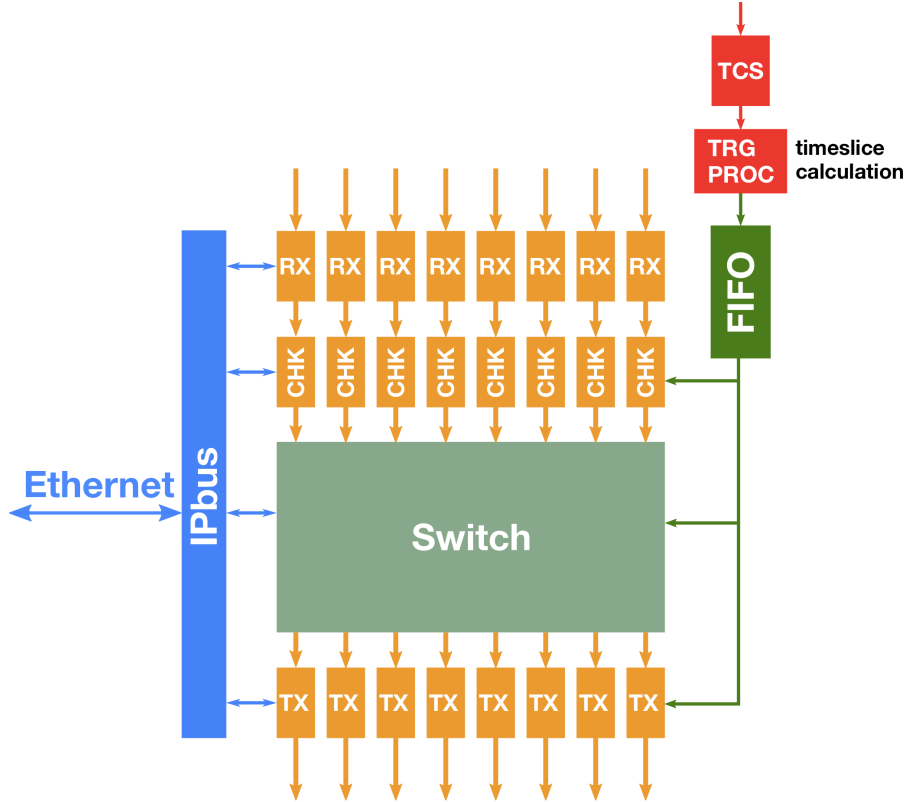


*TUM Uhrenturm*

# New COMPASS Data Acquisition Architecture

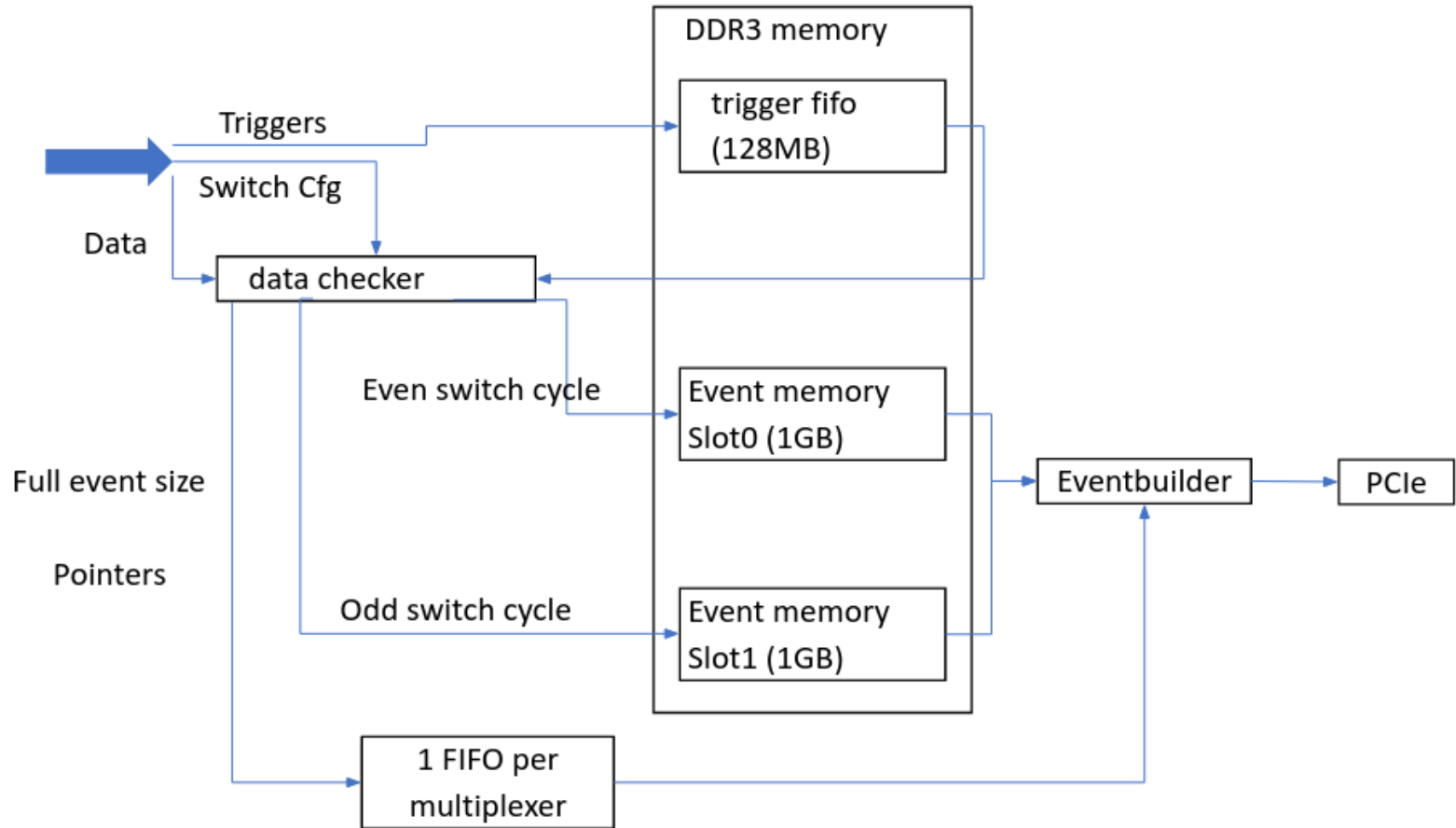


# Switch Firmware

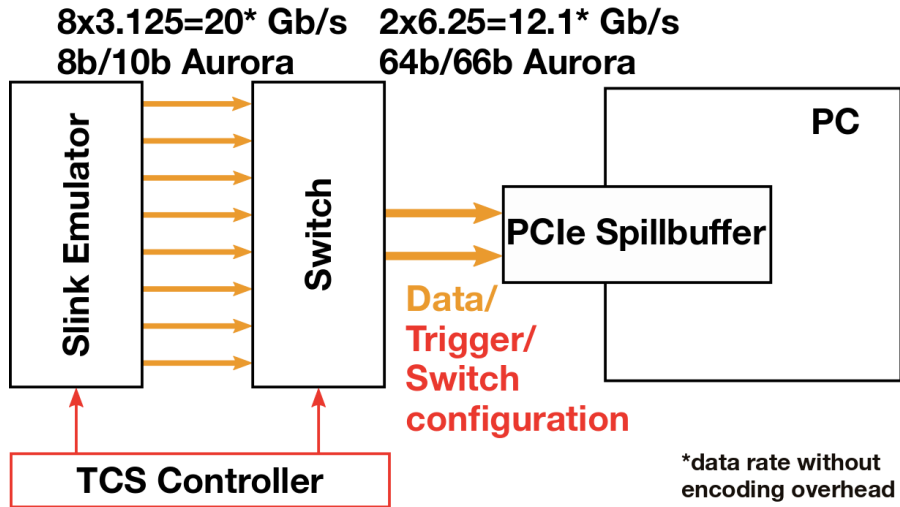


- 8 Slink receivers
- TCS receiver
- deep trigger FIFO in DDR3 memory
- 8x8 switch
- 8 6.25 Gb/s 64b/66b Aurora links
  - trigger and switch configuration distribution over sideband link
- control and configuration over IPbus

# PCIe Spillbuffer Firmware

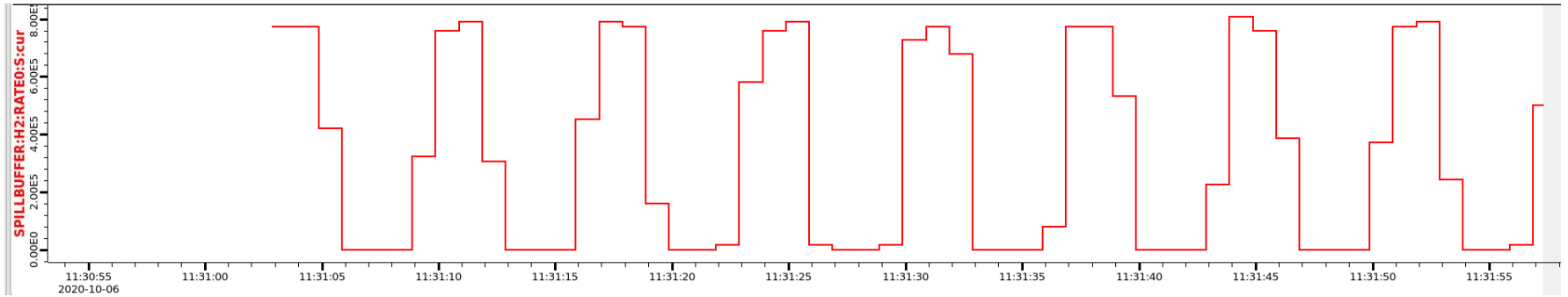


# Test Setup



- Slink Emulator
  - TCS receiver
  - 8 data generators
  - configurable event size
  - Aurora links with backpressure
  - deep trigger FIFO
- 2 Aurora links to the PCIe spillbuffer
  - data on 2nd link ignored

# Test Results and Future Tests



- Receiver bandwidth: 2500 MB/s
- Data rate up to 800 MB/s per link
  - limited by link bandwidth
- 1 trigger / timeslice
- Future tests:
  - implement configurable timeslice period