WR USE CASES AND CHALLENGES IN TRADING

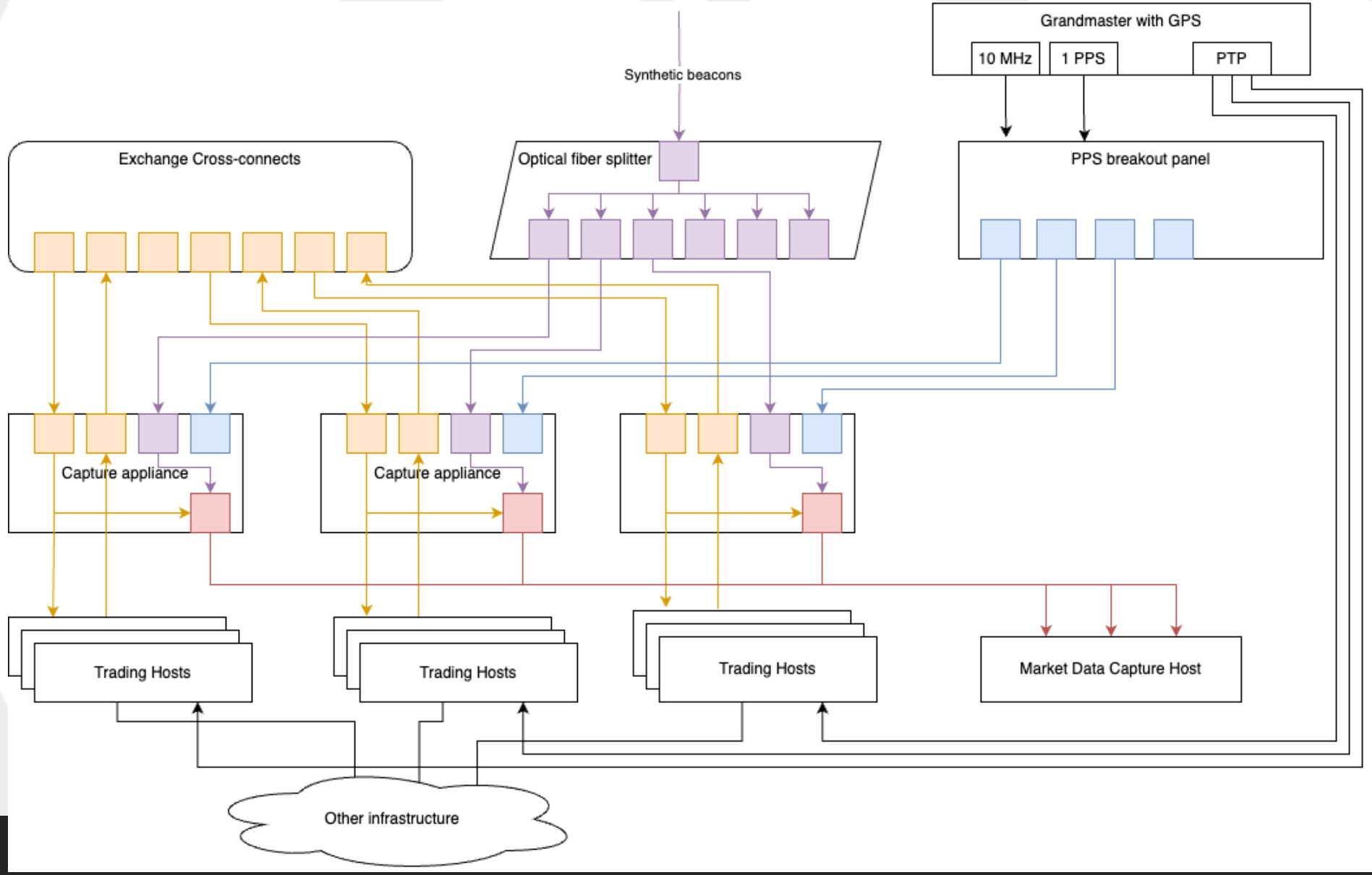
OVERVIEW

- Time synchronization requirements
- Current use case
- Expansion challenges

TIME SYNC REQUIREMENTS

- Regulatory requirements
  - MIFID II – 100us
  - FINRA CAT NMS – 50ms
    - Incident reporting
- Internal research requirements
  - As good as possible

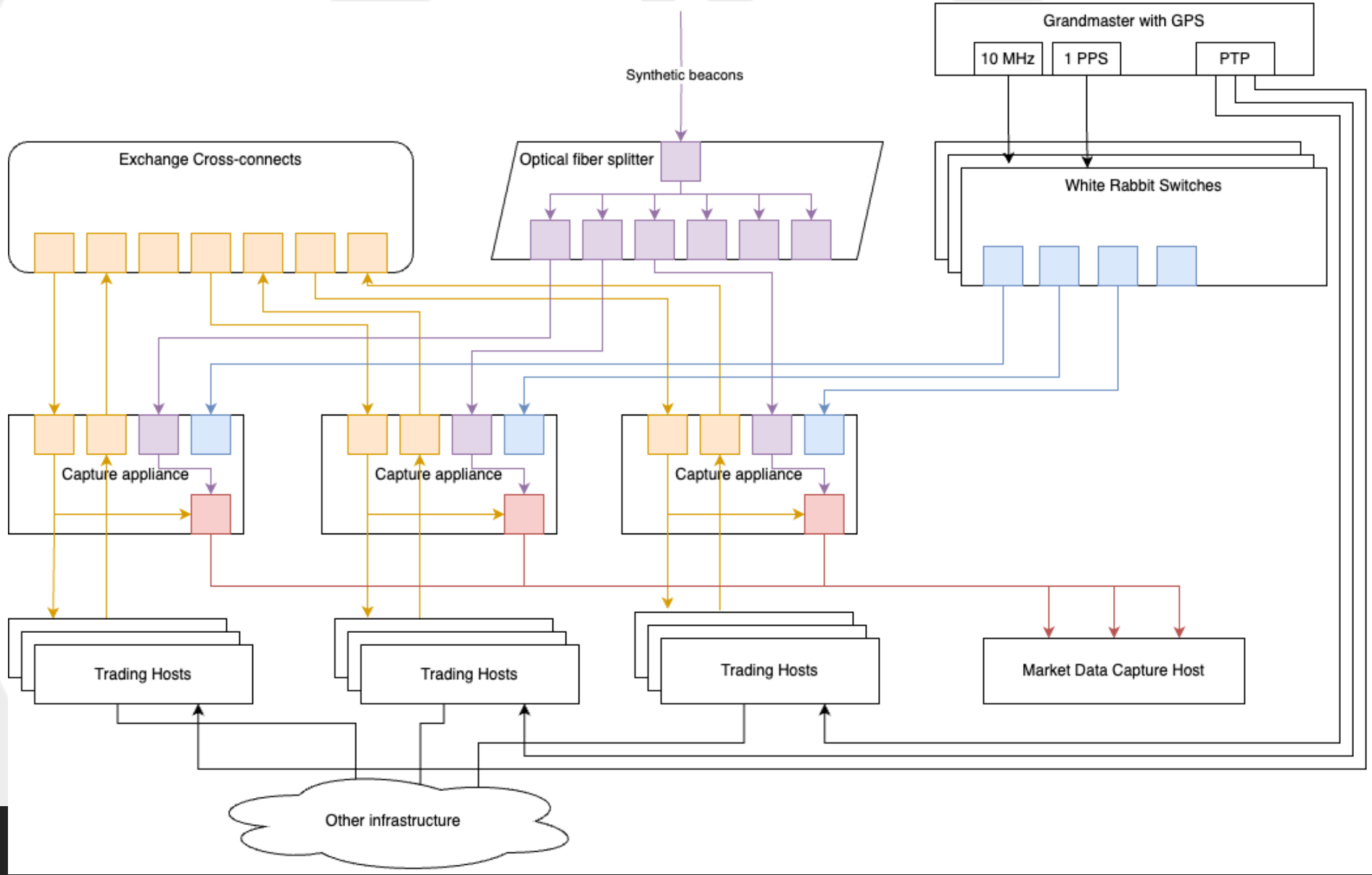
MARKET DATA CAPTURE WITH PPS



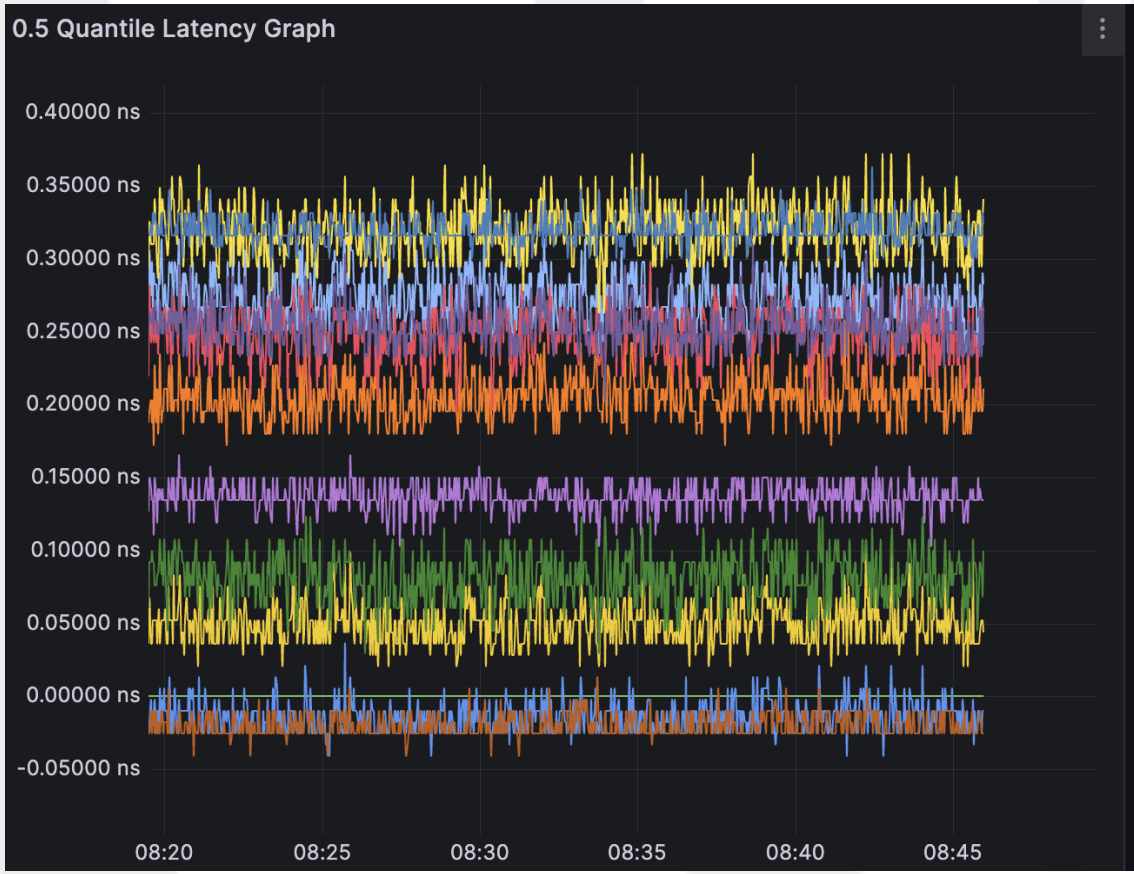
MARKET DATA CAPTURE WITH PPS

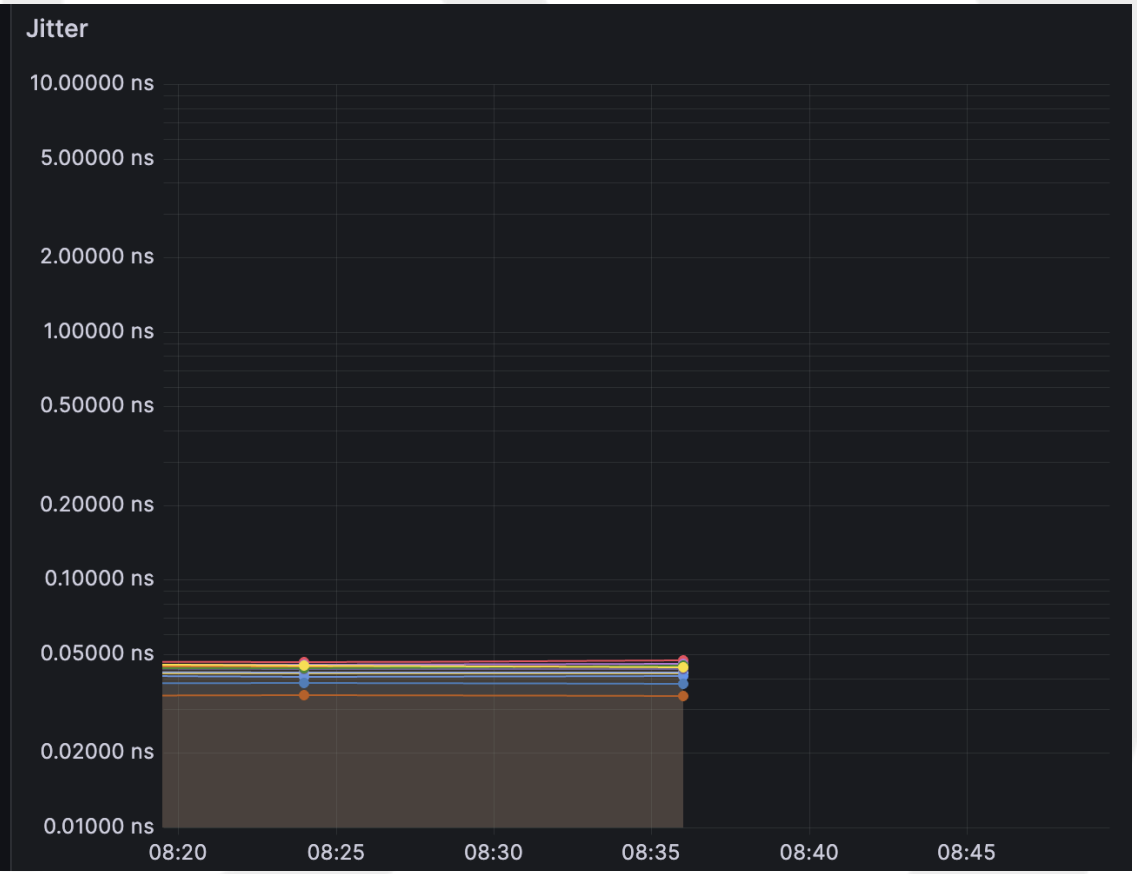
- No redundancy
- Stability issues
- Constant delay adjustments needed
- Not feasible over long distances (multiple rooms, datacenters)

MARKET DATA CAPTURE WITH WR



MARKET DATA CAPTURE WITH WR





WHY KEEP EXTERNAL MONITORING?

- Static offsets observed in capture appliances
- Stability issues after WR feed disruption
- Comparing different White Rabbit Time Domains
- PPS comparison not always accurate

EXPANSION CHALLANGES

- Bring White Rabbit further into the infrastructure
  - Capture internal latencies more accurately
- Redundancy
- 10G support
- Continuous monitoring
  - Need to consider the whole path
  - Solutions in PTP world
    - NetSync monitor
    - Multiple sources
    - Transparent Clocks/e2e delay requests