

# The recent report of missing trigger information

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DAQ Coordination Meeting

13 May 2019

# Recent events

- Last week, Josh mentioned a comment in a recent DRA meeting about events without trigger information
- John Freeman contacted Tingjun to ask about the issue, and we were moderately surprised to hear that ‘Kurt knows all about it’. Tingjun feels that this is a solved problem.
- The good news is that the problem was recognized and “fixed” in October, and a more thorough fix was deployed after the beam run
- At the time, my analysis of one run showed that the problem affected  $\sim 7\%$  of the events, but I don’t know if a more thorough study has been done

# Description of the problem (1)

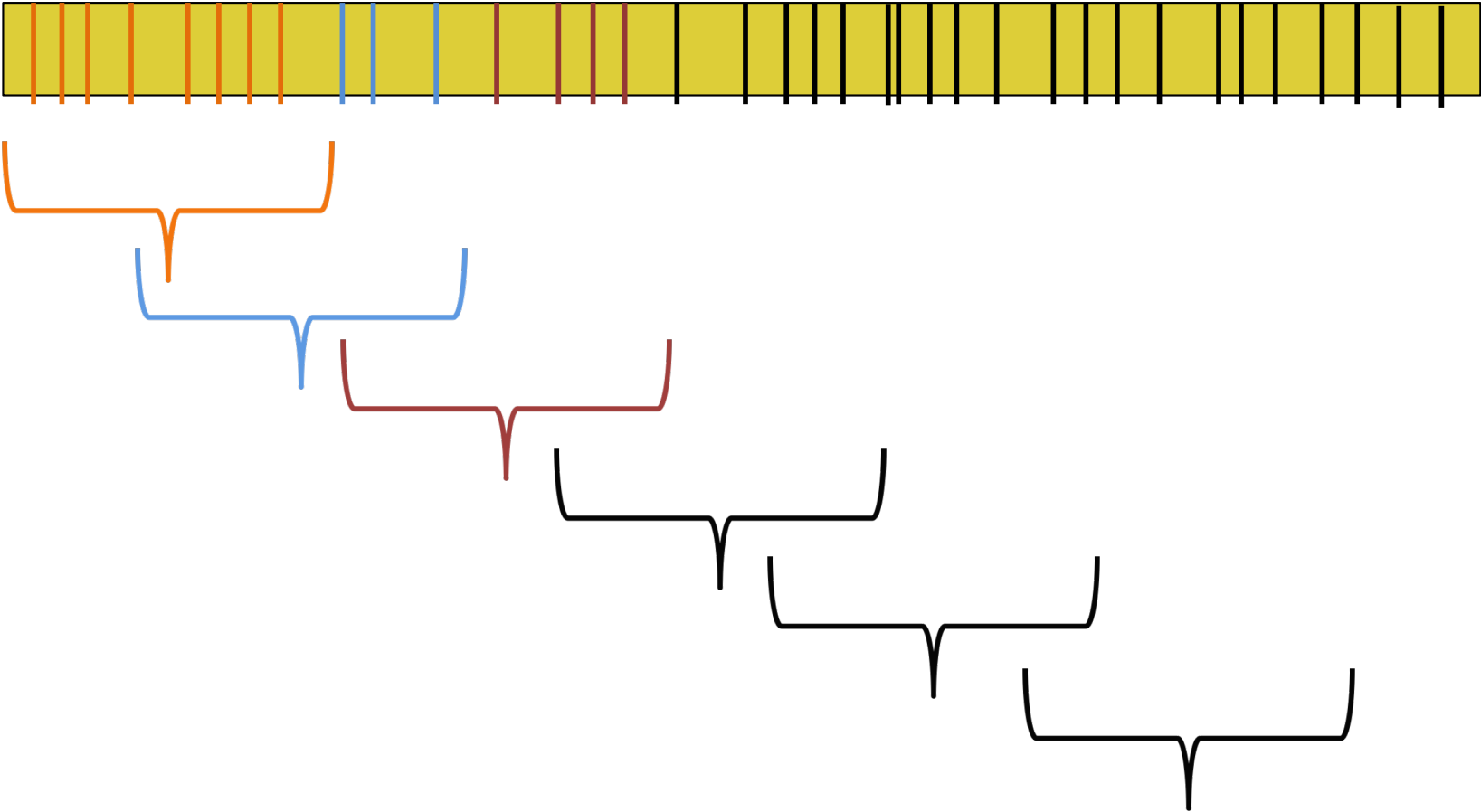
- Early in the beam run, the Trigger BoardReader was configured to return
  1. A fairly wide time window of fragments
  2. A particular fragment only in response to one DataRequest
- DataRequests that arrived at the Trigger BR out of order, would result in the request with the later timestamp scooping up all of the data in the BR data buffer, leaving nothing to be returned when the request with the earlier timestamp was received.

# Description of the problem (2)

- The workaround that we implemented during the beam run was to configure the BR so that
  1. Data fragments could be returned in response to more than one DataRequest
  2. The request window was narrowed from 3 seconds to something more manageable
- After the beam run, we tracked down inefficiencies in the *artdaq* code that were not allowing us to return the same fragments in response to multiple DataRequests *and* support larger request windows. The fixes have been deployed for many months now.

# Questions about validation & communication

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