

Tracking Meeting

Joseph Bertaux

Purdue University

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- Wanted to check my implementation of the BCO distribution in the Offline QA vs in the Calibrations:
 - [Calibration](#)
 - [Offline QA](#)

● Calibration:

```
87  Gl1Packet *gl1 = findNode::getClass<Gl1Packet>(top_node, "GL1RAWHIT");
88  uint64_t gl1_bco = (gl1 != nullptr) ? (gl1->getBCO() & 0xFFFFFFFFFU)
89                                     : std::numeric_limits<uint64_t>::max();
```

```
140  int bco_diff =
141      (m_streaming) ?
142          // Streaming mode BCO Offset : Hit BCO(FPHX BCO + INTT
143          // BCO) - GL1 BCO
144          intt_raw_hit->get_FPHX_BCO() + intt_raw_hit->get_bco() - gl1_bco
145          :
146          // Trigger mode BCO Offset
147          (intt_raw_hit->get_FPHX_BCO() - (intt_raw_hit->get_bco() & 0x7fU) +
148           128) %
149           128;
```

● OfflineQA:

```
229  if (m_is_streaming) {
230      uint64_t gl1_bco = m_gl1_packet->getBCO() & 0xFFFFFFFFFU;
231      uint64_t intt_bco = hit->get_FPHX_BCO() & 0xFFFFFFFFFU;
232      bco_diff = intt_bco - gl1_bco + hit->get_bco();
233  } else {
234      bco_diff = (hit->get_FPHX_BCO() - intt_bco & 0x7FU) + n_bcos % n_bcos;
235  }
```

- The implemenations are logically the same
- I'm not sure what the determinstic, quantitative criteria should be for a streaming "timing okay" check
- Needs to be implemented and the OfflineQA shifter will need other instructions in the meantime