

Updates on xAODEventInfo

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- ▷ In the HLT, we can't rely on EventInfoCnvAlg to create the new xAOD::EventInfo...
 - ☞ ... the HltEventLoopMgr has to do that
- ▷ Both old and new EventInfo coexist for now
- ▷ Implementation in the HltEventLoopMgr deals with the xAOD::EventInfo (more or less) as it dealt with the old EventInfo
 - ☞ Both objects created and registered in StoreGate in prepareForRun and then in the event loop (for each event)

Current Differences

- ▷ xAOD::EventInfo not used to fire incidents (beginRun, beginEvent, endEvent...)
- ▷ Stream tags from both objects are merged in the end – repeated tags are not repeated in the HLT result
 - ☞ Stream tags considered the same if all of their fields match
 - ☞ xAOD::EventInfo still does not support all stream tag fields – robs and detectors still not supported
 - tags that include these fields in the old EventInfo are not identified as repeated → not merged
 - once these fields are present, they will also be merged in tags that are otherwise identical

- ▷ Only Addind EventInfoCnvAlg when the HltEventLoopMgr is not around
<https://savannah.cern.ch/bugs/?104970>
<https://svnweb.cern.ch/trac/atlasoff/changeset/608444/Trigger/TriggerCommon/TriggerJobOpts/trunk/>

Pending changes

- ▷ The stream tags need to include ROB and detector sets
- ▷ With the move to tdaq-05-04-00/tdaq-common-01-28-00:
 - 👉 the detector mask is now 128 bits → updates needed in both EventInfo versions – see <https://its.cern.ch/jira/browse/ATEAM-34>
 - 👉 we can use global event ID (previously unavailable)

Question

- ▷ Is there a decision on whether the old EventInfo will eventually be removed?
 - 👉 Will the xAOD::EventInfo replace it when firing incidents

- ▶ The sets of ROBs and detectors will eventually be needed in the `xAOD::EventInfo`
- ▶ Went ahead to code a tentative update (not committed)

using `eformat::helper::StreamTag`

- ▶ The stream tags have to eventually be output to TDAQ (along with the `HLTResult`)
- ▶ The types for ROB and detector IDs should be compatible with `eformat` – ideally the same
- ▶ But adding these attributes to `xAOD::EventInfo_v1::StreamTag` would complete a duplication of `eformat::helper::StreamTag`
 - ☞ + conversion needed in `HltEventLoopMgr`
- ▶ Decided to try using `eformat::helper::StreamTag` directly

summary

- ▷ `xAOD::EventInfo_v1::StreamTag` replaced with `eformat::helper::StreamTag` in accessors
- ▷ updated output operators (`operator<<`)
- ▷ updated `EventInfo_v1::streamTags` and `EventInfo_v1::setStreamTags` to use:

```
static EventInfo_v1::Accessor< std::vector< std::set< uint32_t >>>
    robsets( "streamTagRobs" );
static EventInfo_v1::Accessor< std::vector< std::set< SubDetector >>>
    detsets( "streamTagDets" );
```

- ▷ added to `EventAuxInfo_v1`

```
std::vector<std::set<uint32_t>> streamTagRobs;
std::vector<std::set<eformat::SubDetector>> streamTagDets;
```

- ▷ still untested
- ▷ *see attached patch*