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.
Changes and questions

- Only adding EventInfoCnvAlg when the HltEventLoopMgr is not around
  - [https://savannah.cern.ch/bugs/?104970](https://savannah.cern.ch/bugs/?104970)
  - [https://svnweb.cern.ch/trac/atlasoff/changeset/608444/Trigger/TriggerCommon/TriggerJobOpts/trunk/](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](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
StreamTag update

- 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:

```cpp
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

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

▷ still untested
▷ see attached patch