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General information

- **Meetings**: We have our weekly trigger meeting on Friday afternoon at 15:00 in 2-R-30. See the indico listing.
- **Organisation**: See the HltOrganisation page, the The HLT WG database (admin instructions), the list of WG liaisons, and the operations twiki.
- **Mailing lists**: Search the archives of lhcb-hlt-software, lhcb-trigger-software, lhcb-hlt-piquet, lhcb-hlt-operations, and lhcb-hlt2-development.
- **Conferences**: See the presentation section of the HLT WG database. For presentations before 2016, see this page. Approved HLT plots for conferences are on this page.
- **Documentation**: See the lhcb-note section of the HLT WG database. There is also a page listing commissioning notes in preparation.
- **Deadlines**: Jump to this section of the current page.
- **Run 2 trigger changes for analysts**: See the Run 2 trigger changelog

Planning

- **LHC Schedule**: Latest 2018 LHC schedule.
- **LHC Coordination**: Coordination info page.
- **Deadlines**: Release deadlines
- **JIRA**: The LBHLT JIRA project
- **2018 Commissioning**: The 2018 commissioning epic LBHLT-378

Information for Hlt Piquets and WG liaisons

The HLT piquets should refer to the HLT Piquet Guide

Moore testing

It is expected that anybody developing HLT code, including Hlt2 line authors, should keep an eye on these automatic tests, and report any issues.

| Nightly qmtests | Look here under lhcb-head (Moore and MooreOnline). In order to run all tests, you can do: make test ARGS ="-j 12"
|----------------|-----------------------------------------------------------------------------------
| Throughput tests with a farm node | Pick the latest entry from here See also LBCORE-1007, and these instructions to test Moore in the online environment on a dedicated node.
| HLT rates | See these instructions to use the Moore_RateTest script yourself. Tests are run on a daily basis within the lhcbpr framework, using 30k L0 filtered events from the TestFileDB. Tests are run on samples corresponding to a few different L0 TCKs, and on different nightly build slots. The results are published here. See also gitlab-repo, and these slides. The test runs over 30k events by default to run over more events specify the --evtmax option.
| Hlt1 independence test | Under MooreOnline in the nightlies There is some older documentation here. |
## Developing Hlt2 lines

### 2018 startup deadlines:

Presentation of new lines to be included in 2018 is **February 2nd**. Deadline for committing new lines will be *≈6 weeks later* (March 16th, subject to changes in the LHC schedule).

If you wish to introduce a new Hlt2 line, or retune an existing one, please follow the steps listed in the table below. The aim is to have a turnaround time of a few weeks for a new or updated Hlt2 line to enter the data taking. This means there are no specific dead lines and we try to be as flexible as possible. This turnaround time does not apply at the beginning of a year when potentially many new lines are added at once.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<tr>
<td>1</td>
<td>Contact your WG liason</td>
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<td>2</td>
<td>Determine the signal rate in the LHCb acceptance</td>
</tr>
<tr>
<td>3</td>
<td>Carefully consider need for Turbo(++) or FULL</td>
</tr>
<tr>
<td>4</td>
<td>Get signal MC</td>
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<td>5</td>
<td>Read the general guidelines</td>
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<td>6</td>
<td>First HLT ops presentation</td>
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<td>7</td>
<td>Create an LBHLT JIRA task</td>
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<td>8</td>
<td>Write your trigger line</td>
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<td>9</td>
<td>Instrument your line with at least one monitoring histogram</td>
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<tr>
<td>10</td>
<td>Measure the rates of your line(s)</td>
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<td>11</td>
<td>Measure the efficiency of your lines(s)</td>
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<td>12</td>
<td>Estimate the purity of your line(s)</td>
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<td>Independence test</td>
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<td>Second HLT ops presentation</td>
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<td>16</td>
<td>Merge request</td>
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<td>17</td>
<td>Create JIRA subtask for new TCK</td>
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<td>18</td>
<td>Check the next nightly tests</td>
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<tr>
<td>19</td>
<td>Release manager accepts merge request</td>
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The Tesla project

- Tesla project
- Turbo++

HLT Monitoring

- RunIIMonitoring -- Monitoring in RunII
- Hlt2LinesNewTemplate#Monitoring
- Hlt2AnalysisTasks -- Analysis of histograms produced in HLT2.

Level-0

- TCKs: All released ones as listed here. See also slide-9.
- Bandwidth division: More details on this page
- Testing L0 TCKs: See these instructions to run L0App and print the rates.
- Software: See this page on the L0App application, and these details on L0Muon emulation.

Trigger performance studies

- Timing Studies: Checking the impact of increasing the number of Kalman iterations on Hlt execution time
- Hlt2Rates: Rates of Hlt2 lines
- HltCorrelations: Correlations of L0, Hlt and Stripping lines

Upgrade Trigger development

- Upgrade Monte Carlo Samples: Samples for development of the Upgrade Trigger
- GPU Studies: Studies of running (part of) HLT1 on GPUs

Physics working group specific pages

- Charm WG

About the HLT

- HltFAQ
- How do I run the HLT2 without PID selections?
Old pages

A list of historic, and probably obsolete, pages on the LHCbTrigger is here.