

CTP after LS2

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Current Status

- Reasonably clear definition now of what is needed after LS1
- Mixed/contradictory information as to what is needed after LS2, owing to early information on “triggerless system”.
- Emerging view that system will need to be *hybrid*, as even in most optimistic scenario many detectors will remain trigger-based.

Relevant Features of Current System

- Arrangement (LM) made to accommodate TRD.
- At L0 MB-like triggers are available; also more selective triggers (Muon, EMCAL, TOF), many of which will no longer be required.
- At L1 further decisions are made (mainly TRD but also some EMCAL). No longer required?

Readout

- Even detectors which run in continuous mode will need trigger readout to indicate in which BCs triggers potentially of interest occurred (we presume)
- Need to clarify how this information is propagated.
- Much now goes through Trigger data at L2a. In new scheme L2a will presumably not happen (trigger ends at L1)
- Would then need to modify trigger sequence and have trigger information all sent following L1
- Change to trigger protocol for ALL detectors.
- *(Or we could keep the current protocol, reducing L1/L2 gap to minimum, just to send the trigger information while maintaining protocol)*

Description

- Part 1. Describe system NOW (i.e. after LS1), with emphasis on LM and trigger data.
- Current battles over classes/clusters should be over, as trigger classification will be much simpler, with “real” classification deferred to HLT
- ...unless one wants the “old” trigger information for comparison with HLT decision

Triggered Mode

- Do we simply have a fallback MB trigger that can run for debugging, or do we retain the capability to run more complex triggers (more-or-less as now) for commissioning purposes?
 - Will depend on decisions made for other detectors: no trigger detectors → no trigger capabilities.