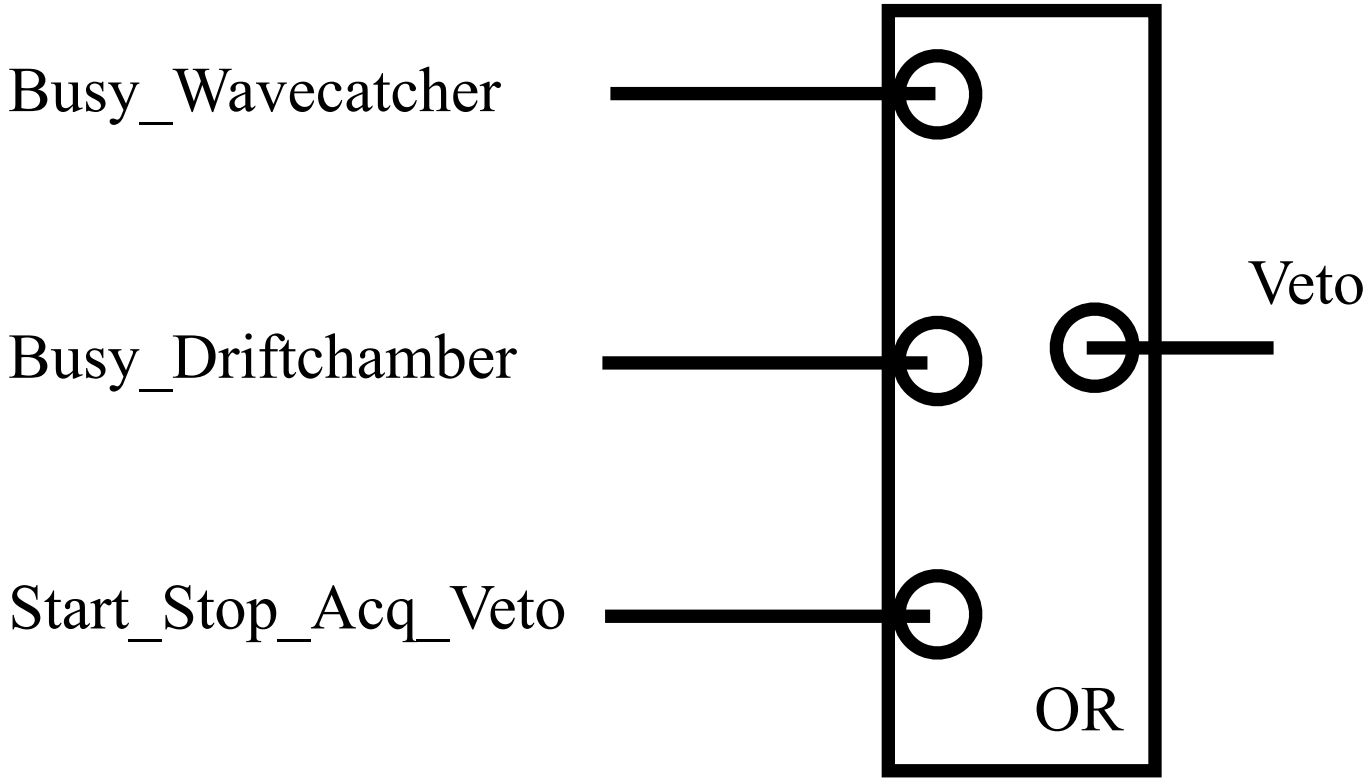
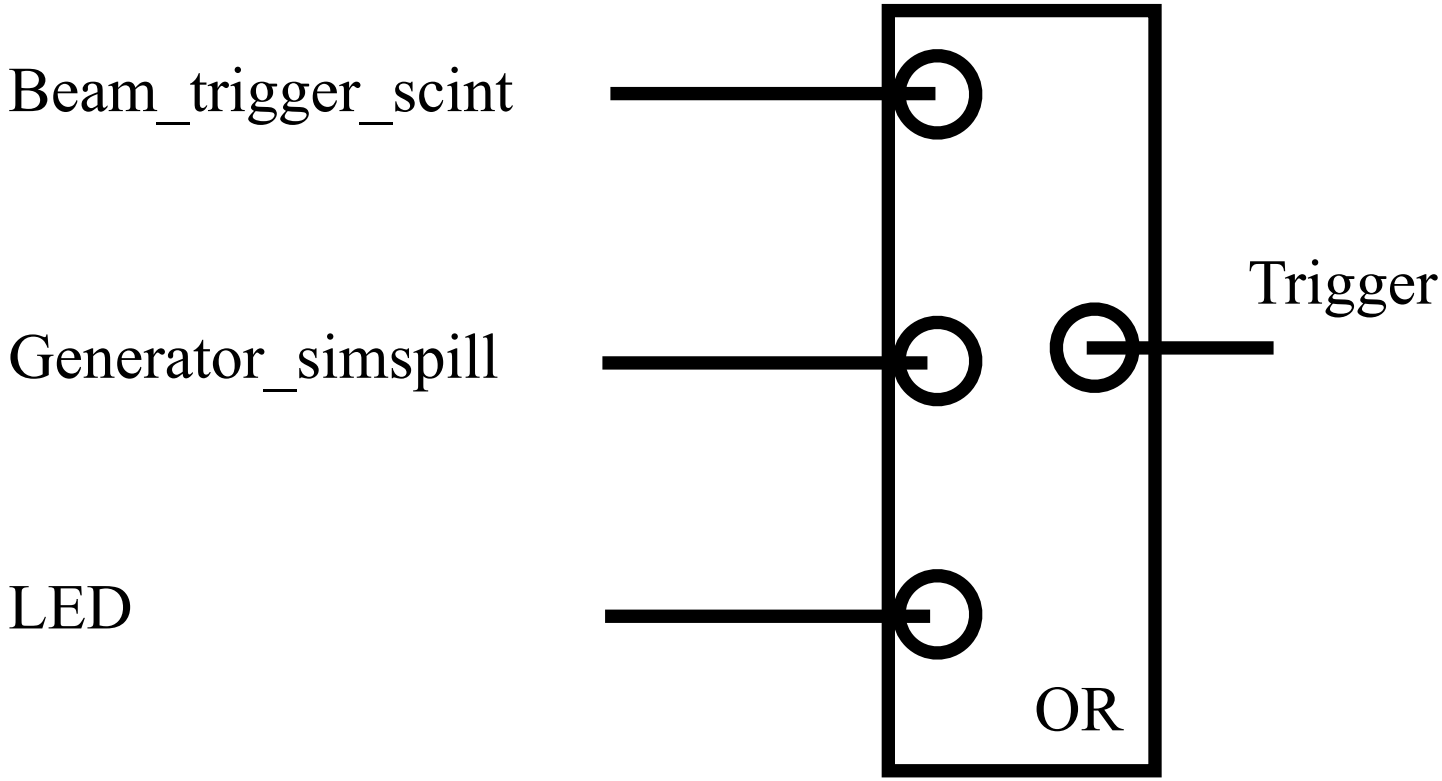
Trigger, Start of Acquisition and synchronisation of data files

Gathering ideas from Magali and Hervé

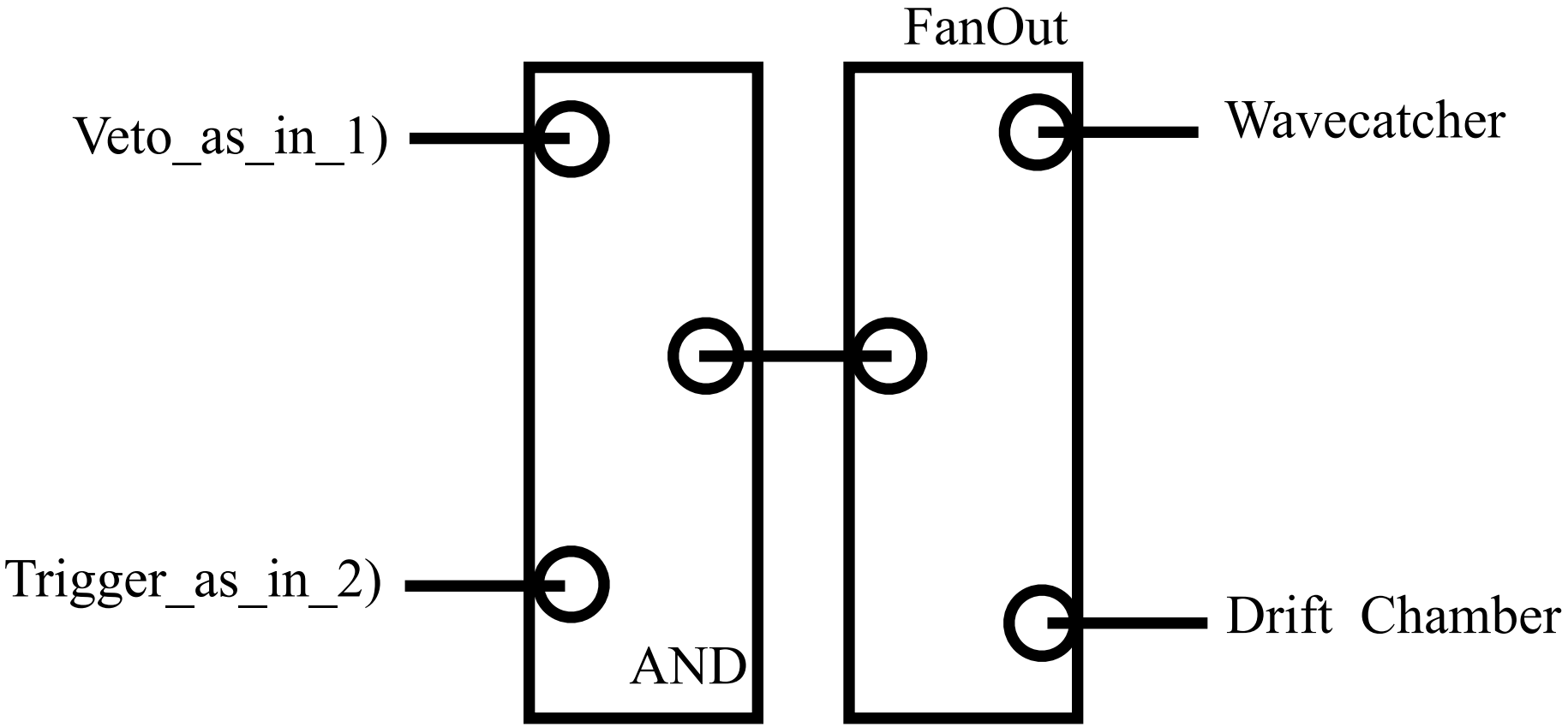
- Possible logic to trigger and acquire:
- 1) The start and the stop of the acquisition



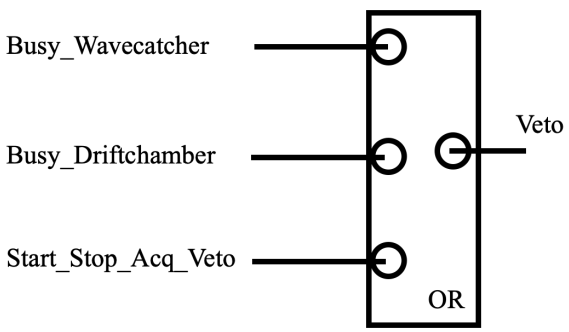
- Possible logic to trigger and acquire:
- 2) The different triggers

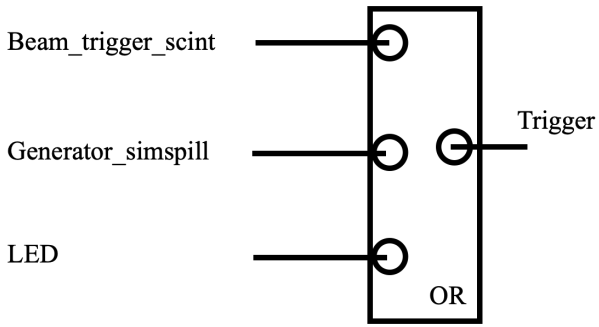


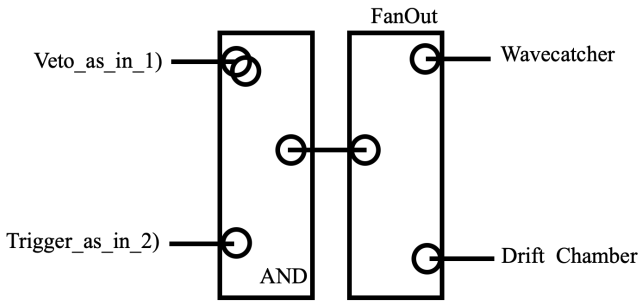
- Possible logic to trigger and acquire:
- 3) The actual trigger



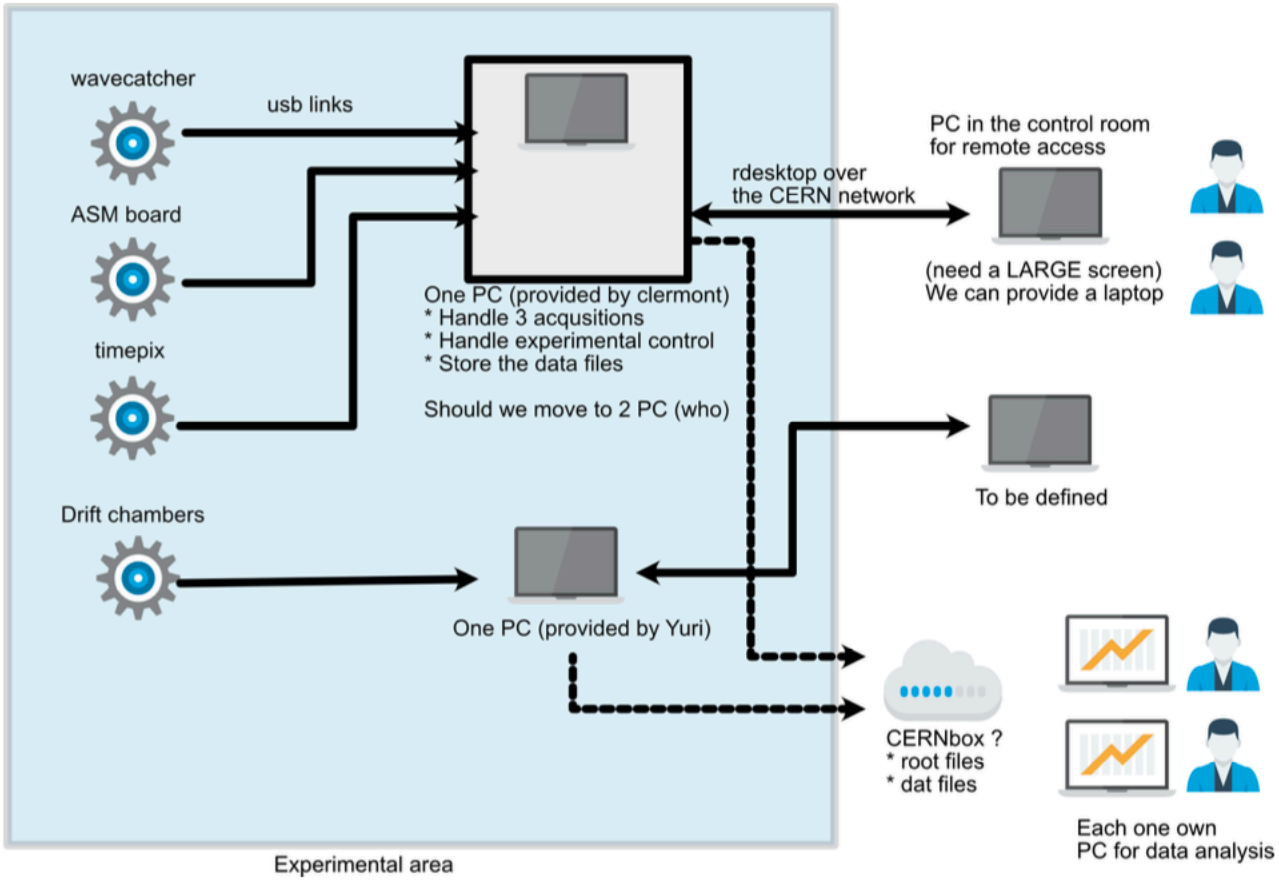
- Possible logic to trigger and acquire:
  - This ensures to have a convenient unique start for all systems to acquire and allow us to get files during the commissioning phase.
  - Supposing that writing efficiency of triggered events is 100%, the corresponding events would be aligned in the files. Supposing it won't be, this however ensures that the corresponding events are not far away in the files.







- A possible file synchronisation logic: the network



- A possible file synchronisation logic:
  - We have in the files for each event the TDC times for the Drift Chamber and the Wavecatcher, respectively.
  - To check for missed events, we determine the difference of those two times within each spill.
  - We retain in the final analysis the events that do have the same time difference.
  - This can be checked with the first spill.
  - This can be even checked with a generator the 11-12/06.
  - Identified pitfall: within a spill, and if we assume the results from the Clermont test bench, we'll have a drift b/w these two signals of 15 us (OK!).