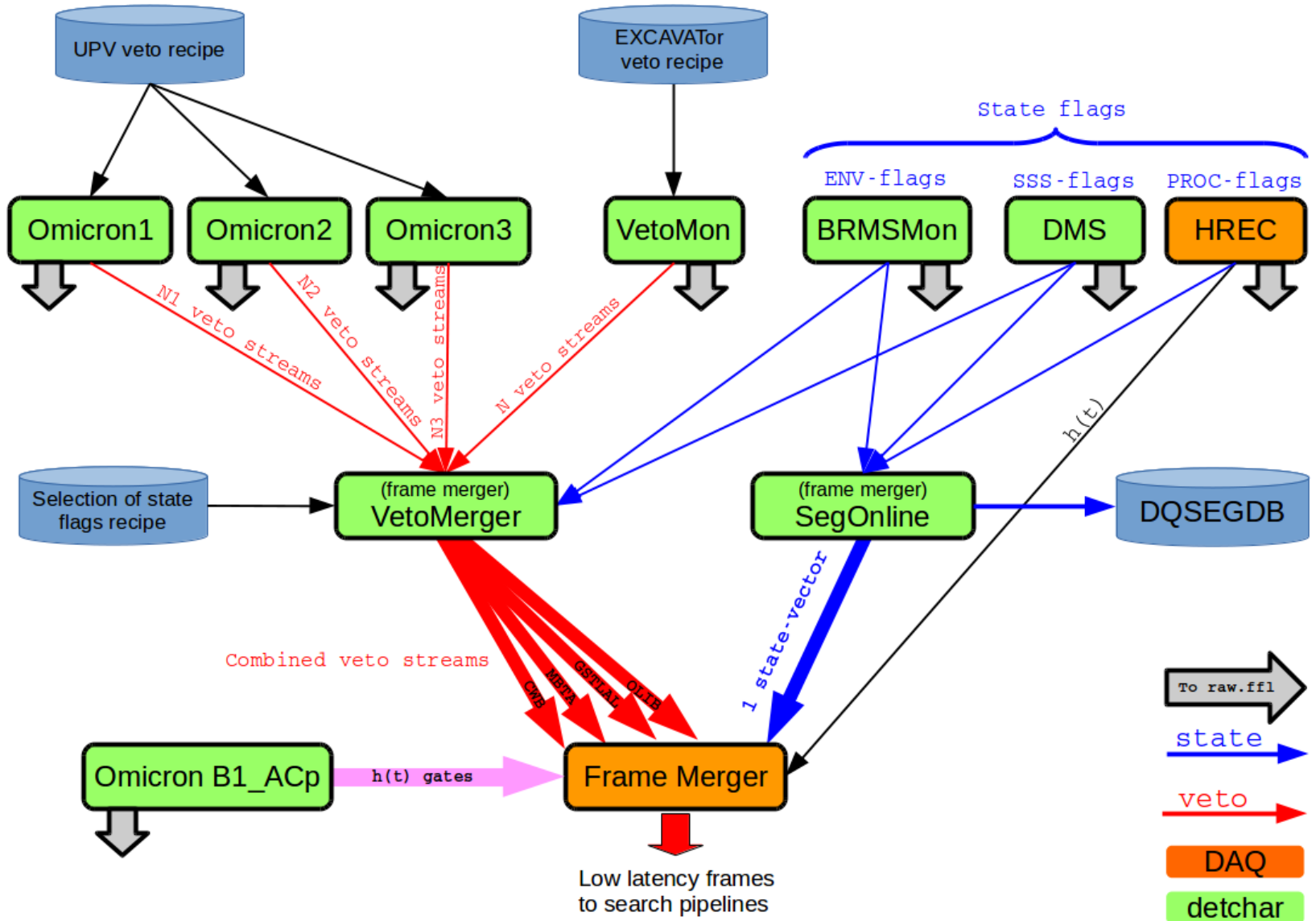


Online Omicron processing

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Reminder : the big picture



Online Omicron

- Idea is to run with a very low latency on a large set of data
- We use exactly the same sequence of Omicron functions as for the offline analysis (except for data access)
- Connect directly the Omicron pipeline to the DAQ system with FdIOServers
- Part of the architecture already tested in the past
- New features
- Some open questions

Implementation

- We have a dedicated DAQ line to feed OnlineOmicron processes
- We divided the processing between different instances, depending of :
 - Search bandwidth used
 - Number of channels
- Today we were able to run with 421 channels divided between 28 processes on a single machine - olserver116
- Everything is controlled through VPM :
<https://vpm.virgo.infn.it:40000/>
- We have also a dedicated test line
- Code is still running under my working directory ...

New features

- As we would like to insert Omicron based veto in the online $h(t)$ frames we need to reduce as much as possible the latency
 - Reduce the chunk size to 4 seconds – minimum for Omicron
 - New implementation for Omicron see Florent's talk
 - We have a mean latency of 6-7 seconds – peak latency to be crosschecked
- We now write directly large files on disk (avoid merging with cron jobs)
- We have already tested the possibility to use a science flag for processing – we can also implement `state_vector` if useful
- We need to retest the veto segment generation
- We can already send in ADC format the veto stream

What is still needed ? – open questions

- Different questions need to be answered :
 - How do we define the list of channels on which we need to run – need inputs from the subsystems managers
 - Should we use the dead channel monitors database ?
 - How do we want to define the state vector during the commissioning phase ?
 - More generally what commissioning group would like to get from us ?
 - How often do we want to update veto recipes ?
 - Need to prepare next Observing Run both for detector shifts and for EM follow-up
- One big piece is still missing : VetoMerger
- This will be our next step
- Online trigger will be available on site for a given period (may be one or two years) – Triggers are expected to be reprocessed and archived in CC with more channels, updated configuration