

Streaming at L3: Summary and Status

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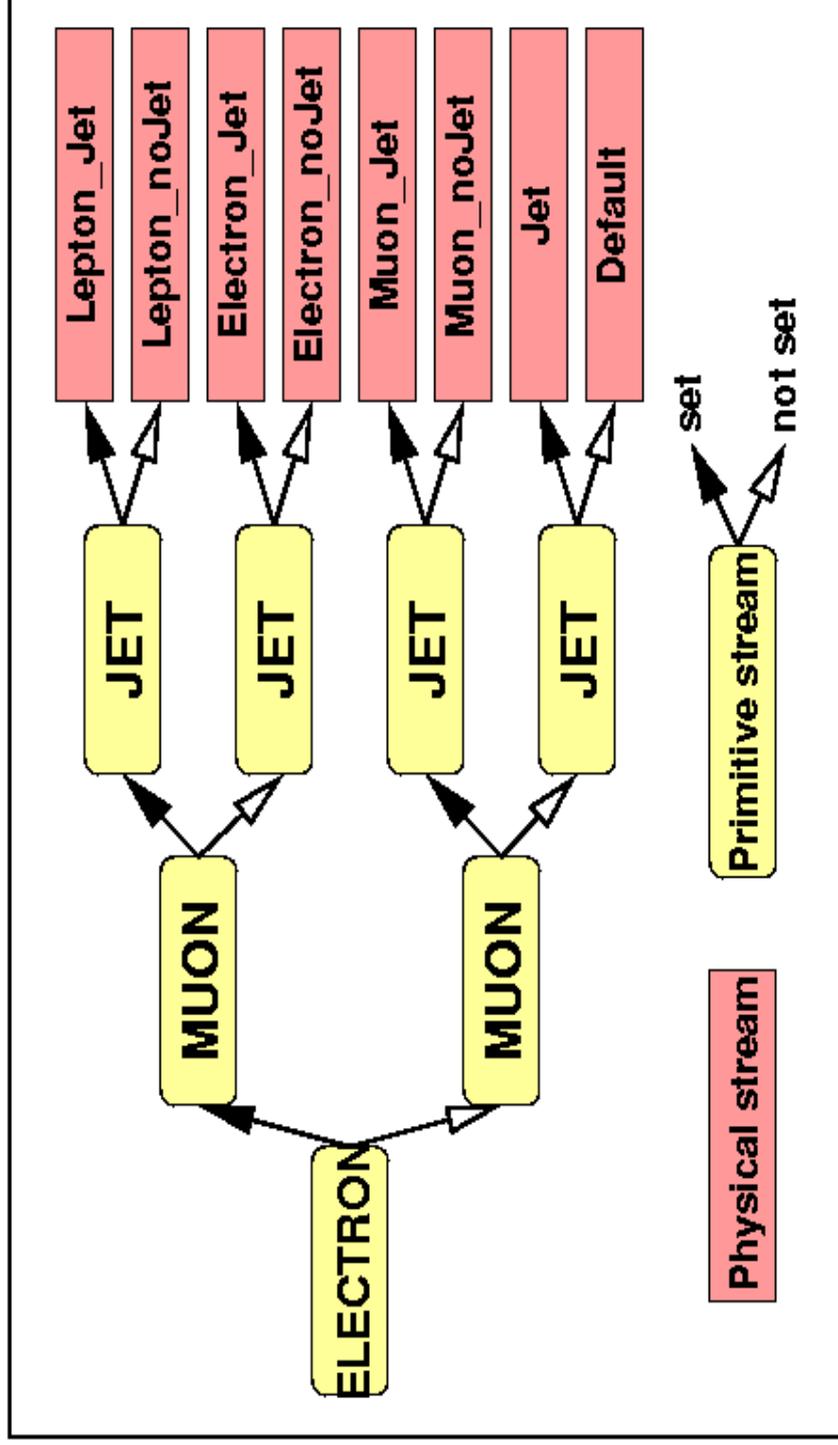
Streaming Summary

- **Streaming for normalisable physics analyses will be done exclusively:**
 - **each event in a run will be delivered to only one file determined from the result of running the L3 filters**
 - **each filter is assigned a “primitive stream”**
 - **a list is assembled of all primitive streams assigned to filters associated with each trigger which passed at L3**
 - **this list is then processed to determine the single exclusive stream - “physical stream” the event should be routed to.**

Exclusive Algorithms

- **There are two algorithms implemented in the L3 system for streaming events:**
 - **SimpleAlgo (current default):**
 - **maps primitive streams one-to-one to physical streams**
 - only works if only one primitive stream is active in each event
 - **SurfaceSplit:**
 - **is configured with a binary decision tree:**
 - each node in the tree is a primitive stream
 - at the end of a branch is a physical stream
 - allows all possible ways of exclusive streaming based on primitive streams

Decision Tree



Inclusive monitoring/error streams

- **Inclusive streaming has been implemented for the special case of events marked as unbiased (at L3)**
 - **if the event also passed a physics trigger it will be assigned to the normal exclusive physical stream plus the monitor stream**
 - **events which fail the physics triggers but are marked unbiased (forced unbiased) will be sent only to the monitor stream**
 - **functionality now exists to handle L2 unbiased data in the same way (but is not yet in production code)**

Status: testing

- **Multiple exclusive streaming using the Surfacesplit algorithm was successfully tested at the end of last year both online and offline and with and without beam**
- **Should probably do one more test with beam before it is used for physics running**
- **Inclusive streaming for monitoring was tested again recently after some bug fixing and now works correctly**

Conclusion

- **Multiple exclusive streaming is ready to go from an L3 standpoint (and has been for some time)**
- **Inclusive monitor streaming is ready to go and implemented in the current version running online**
 - **a trigger list modification is all that is required to enable it**
- **Inclusive streaming for L2 unbiased/forcewrite is implemented but need testing before it is released**