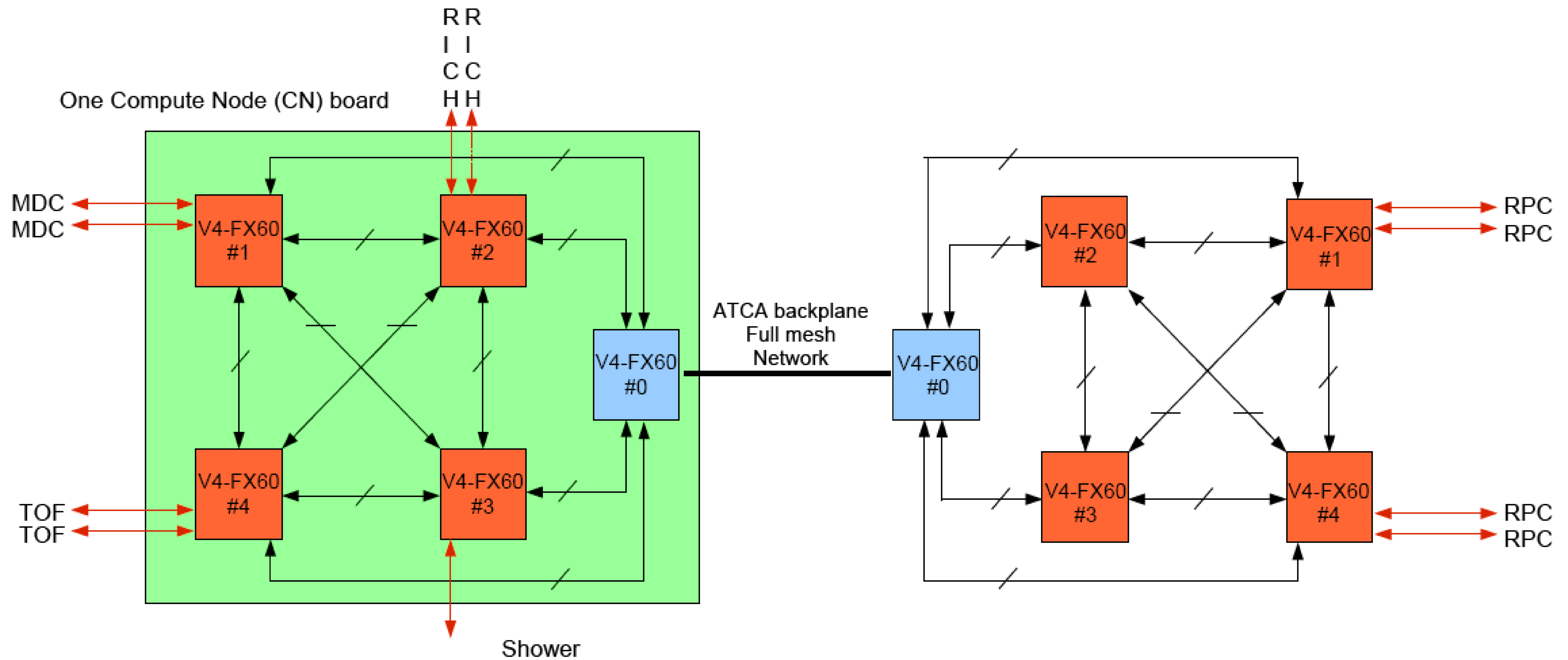# Sector-Wise Event Building

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Main Tasks

- The Event Builder reconstructs the event structure by combining different subevents from RICH, MDC, RPC, TOF, etc. which all belong to a same sector.

- Two compute nodes are responsible for one sector and the left one is used for communication.
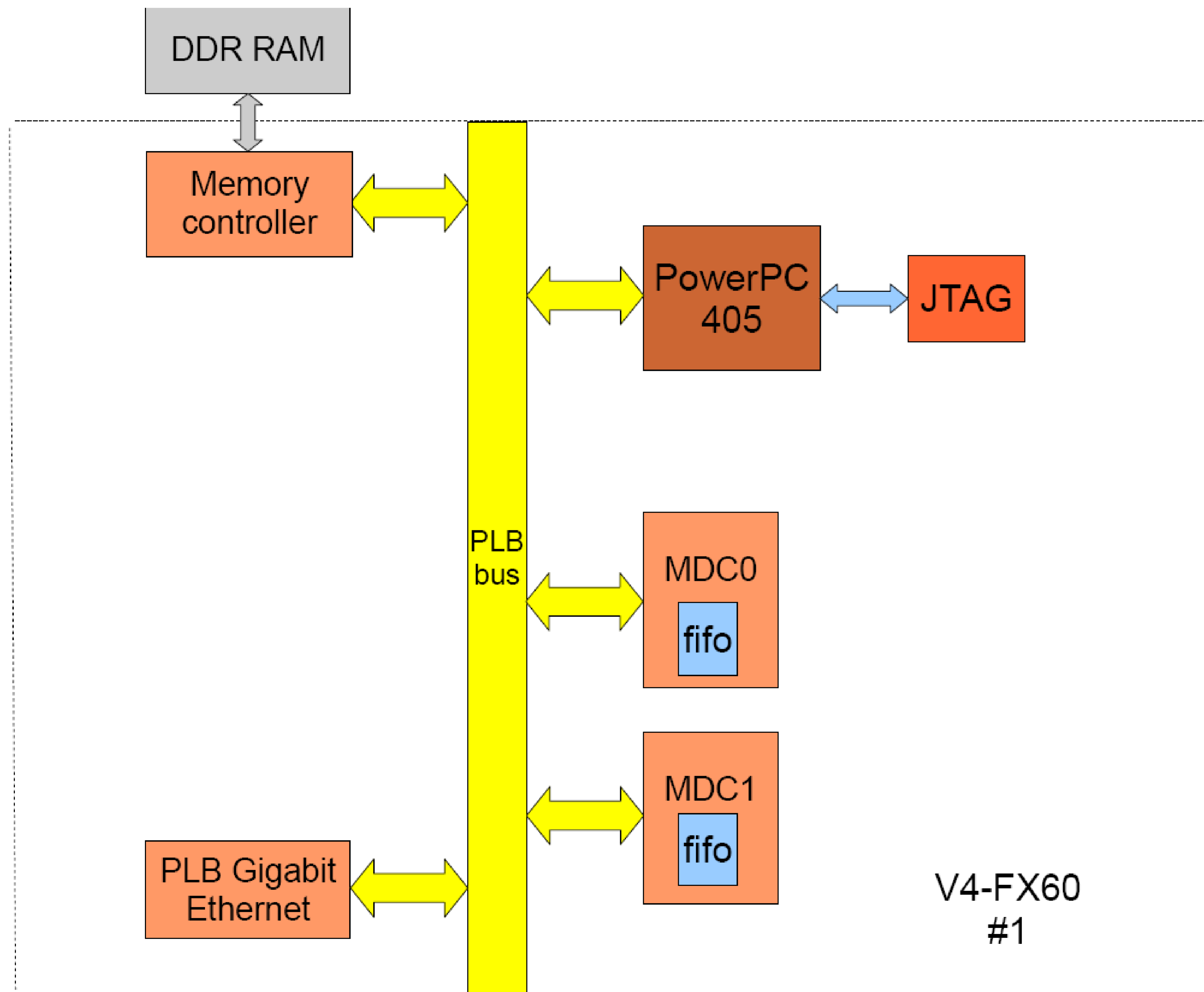
Event Building for One Sector

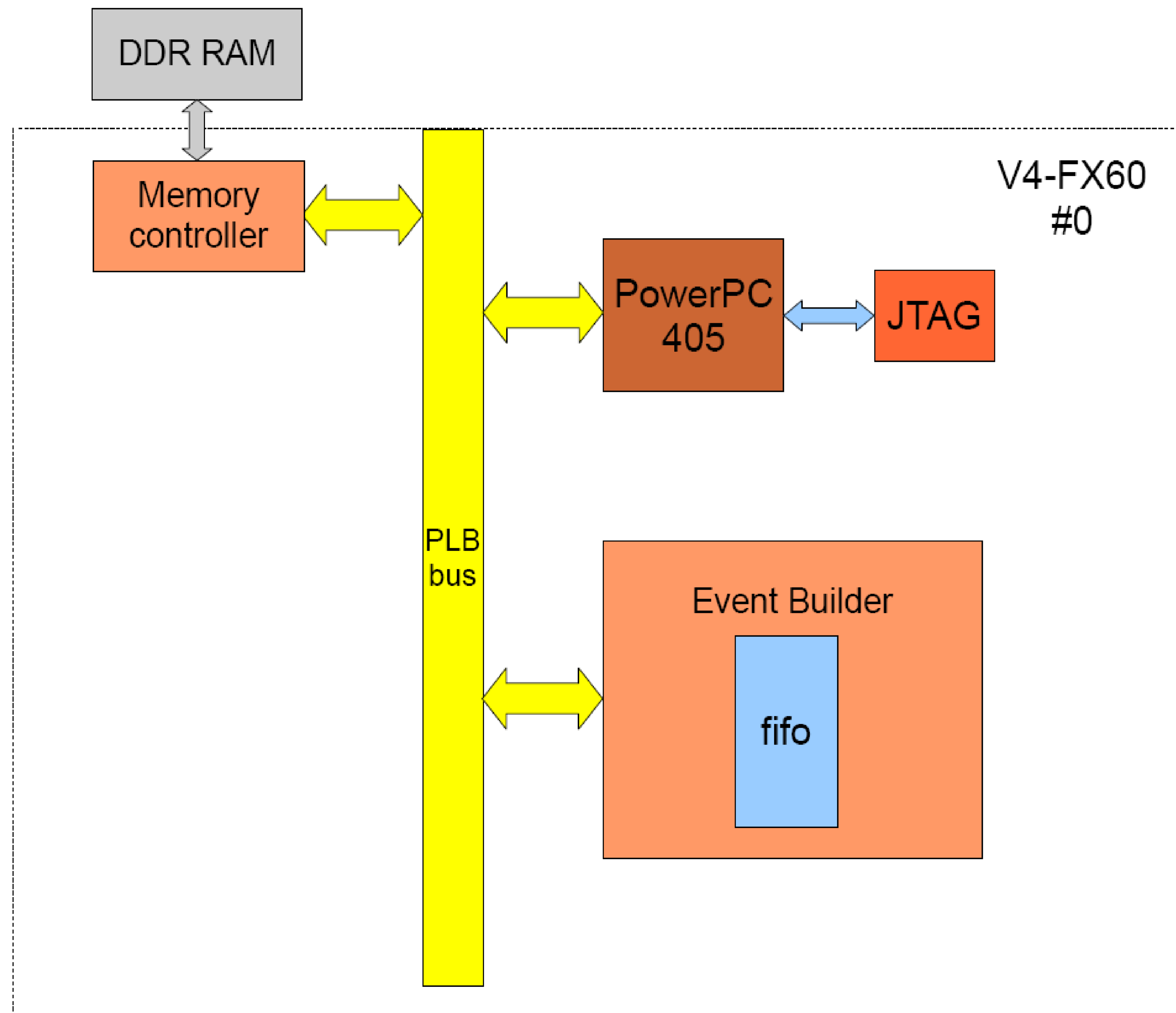Two Compute Nodes for One Sector
Event Building

FPGA#1 Connect to MDC TRBv2

- Two logic modules connect to PLB bus.

- FIFOs inside each module buffer the MDC subevents.

- RICH, TOF, SHOWER, RPC use the same structure.

FPGA#0 Connect to ATCA Backplane

- The Event Builder reconstructs the event structure by combining different subevents from RICH, MDC, RPC, TOF, etc. which all belong to a same sector.

- Two compute nodes are responsible for one sector; One Event Builder in one of the two nodes has one more task: packaging the events from two nodes together.

Current Status and Future Work

- Begin with the MDC event builder.

- Design two logic modules reading and buffering the MDC subevents and implement it on ML403/405 development board.

- The next step is to design the Event Builder packaging subevents.