

A Register Relay

The JB passes a copy of the A register data from the AR module to the IB module.

Local Memory Control

The JB controls a vector type references to local memory and assists the JA module with A and S register type local memory references.

Vector Write Delay Chains

The JB has eight vector write delay chains (one per vector register). The delay chain is entered at a specific point for a given vector write type instruction. The entered bit will propagate through the delay chain. The last term is outputted to the JC modules which informs them when to start writing to that vector register. Instruction 74, 140-177 use these delay chains.

Functional Unit Length Counters

There are five functional unit vector length counters: Vector Logical, Vector Integer, Floating Add, Floating Multiply, and Local Memory. Whenever a vector type instruction is going to use a specific functional unit, that associated length counter is loaded with the vector length. The length counter will immediately start decrementing and when a value of zero is reached a signal is sent to the JA module to clear that function unit flag on the JA.

Phase Packet Generation

The JB module controls phase packet generation for it's process. It may receive a phase signal from the previous processor and send a signal to the next processor. Phase signals are sent to the rest of the processor and to common memory for synchronization purposes.