Snow64 Control Unit Details

- General Notes
  - The SystemVerilog module for the control unit is actually just called `Snow64Cpu`.
- The following units are part of the `Snow64Cpu` module.
  - **One** `Snow64FakeInstrCache` instance
  - **One** `Snow64InstrDecoder` instance
  - **One** `Snow64MemoryAccessViaFifos` instance
  - **One** `Snow64LarFile` instance
  - **Four** `Snow64Alu` instances (covers a whole LAR's worth of data)
  - **Four** `Snow64VectorMul` instances (covers a whole LAR's worth of data)
  - **Four** `Snow64NonRestoringDivider` instances, with parameter `WIDTH__ARGS` set to the default of `64`. Note that because there are only four of these, vector divides for types other than both types of 64-bit integer will take much longer than would be desired.
  - **Three** `Snow64ScalarDataExtractor` instances, one for each of the "dest" register and the two "source" registers.
  - **One** `Snow64ScalarDataInjector` instance, which is used for writing into the "dest" register.
  - **Four** `Snow64BFloat16Fpu` instances, which is *not* enough to perform vector BFloat16 operations on whole LARs in parallel.
  - **Two** `Snow64BFloat16CastFromInt` instances, one for each of the two "source" data LARs that can be used in an instruction
  - **Two** `Snow64BFloat16CastToInt` instances, one for each of the two "source" data LARs that can be used in an instruction
  - **Two** `Snow64IntScalarCaster` instances, one for each of the two "source" data LARs that can be used in an instruction
  - **Two** `Snow64IntVectorCaster` instances, one for each of the two "source" data LARs that can be used in an instruction
  - **Two** `Snow64ToOrFromBFloat16VectorCaster` instances, one for each of the two "source" data LARs that can be used in an instruction
- Operand Forwarding
  - Operand forwarding is very similar to operand forwarding in a conventional architecture, but it differs slightly.
    - In a nutshell, it checks if the data being compared have the same `base_addr` value.