

Multiplier Unit

The Multiplier Unit of the CGRA can take a number of inputs (by default configured to 4 inputs) and perform signed and unsigned multiplications on two of these inputs. The inputs are specified by the instruction and selected by the two 4-input multiplexers in the top of the figure below.

Since the output of the multiplier is 2 times the width of the input data the result does not fit on one output port. The multiplier supports two methods for reading the full output:

- A normal multiplication outputs the lower half of the result directly on the chosen output port. A second instruction then reads the higher part of the result to a specified output port.
- The complete result is written to two ports at once, the outputs will be *dest* (lower part) and *dest+1* (higher part).

The destination operand specifies to which register the output has to be written.

