

Abstracted Microarchitecture: Example Core i7 Haswell (2013) and Sandybridge (2011)

Throughput (tp) is measured in doubles/cycle. For example: 4 (2). Numbers are for loading into registers.

Latency (lat) is measured in cycles

1 double floating point (FP) = 8 bytes

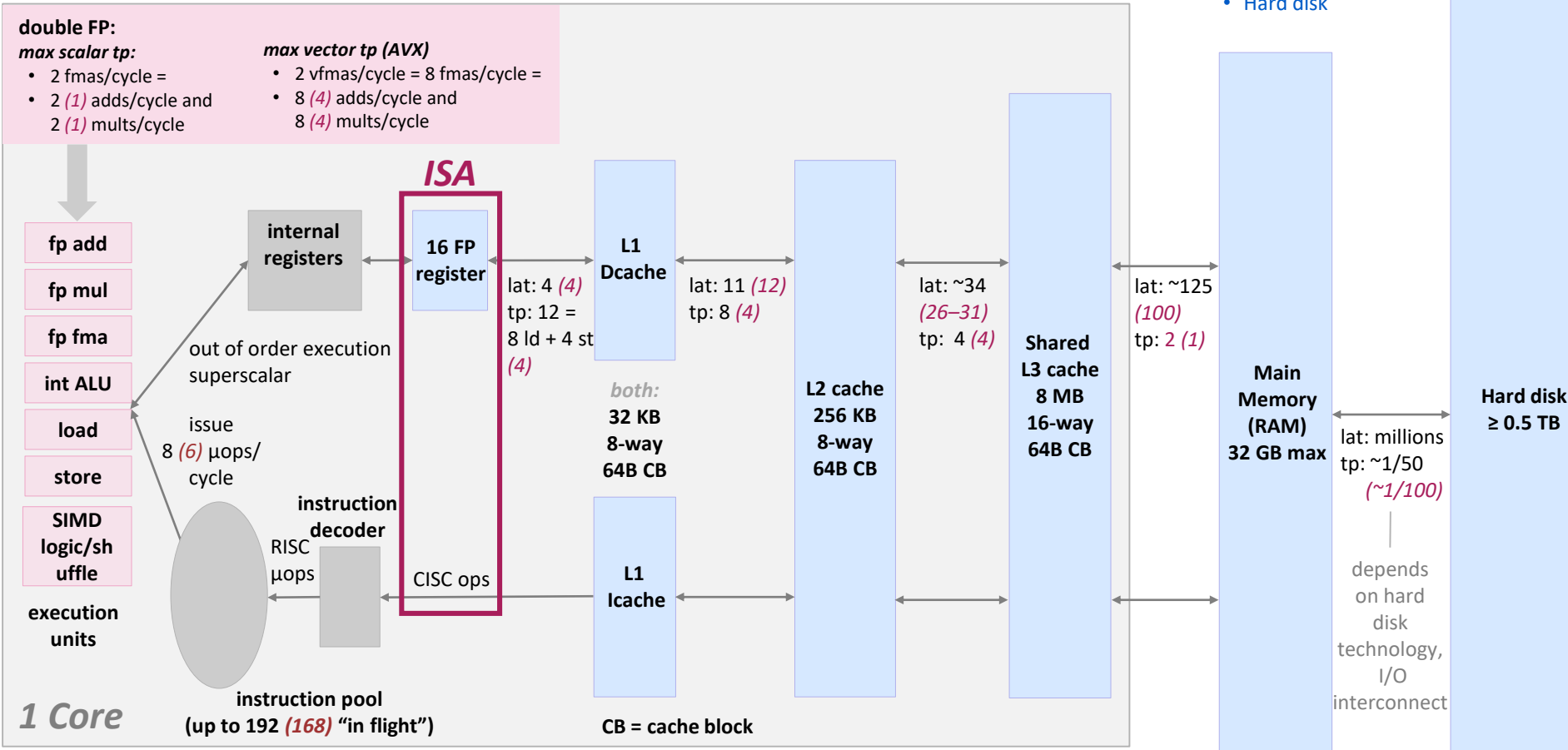
fma = fused multiply-add

Rectangles not to scale

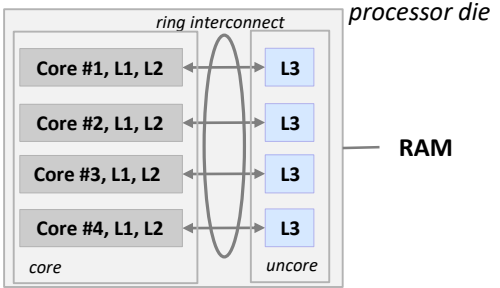
Haswell ↑
Sandy Bridge ↑

Memory hierarchy:

- Registers
- L1 cache
- L2 cache
- L3 cache
- Main memory
- Hard disk



Core i7-4770 Haswell:
 4 cores, 8 threads
 3.4 GHz
 (3.9 GHz max turbo freq)
 2 DDR3 channels 1600 MHz



Source: Intel manual (chapter 2), <http://www.7-cpu.com/cpu/Haswell.html>