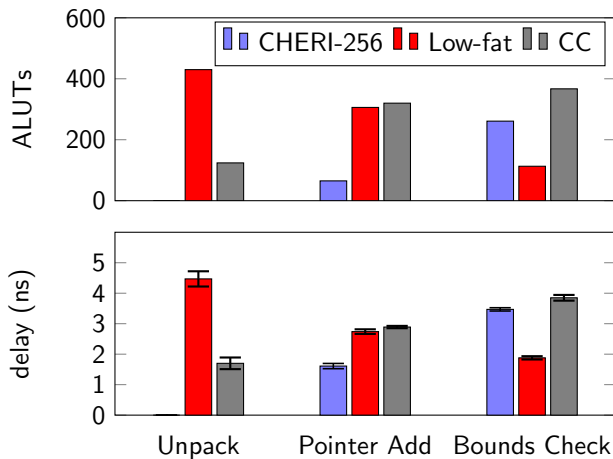


# Pipeline Bottlenecks

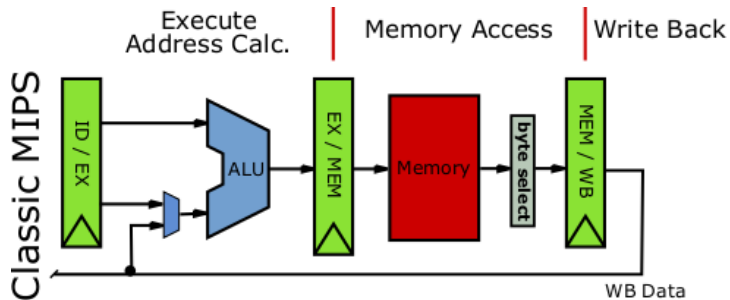
When handling fat pointers or CHERI capabilities, the bottlenecks are:

- ▶ Unpacking compressed form when loaded from memory
- ▶ Adding offsets to pointers, verify representability
- ▶ Bounds-checking memory accesses

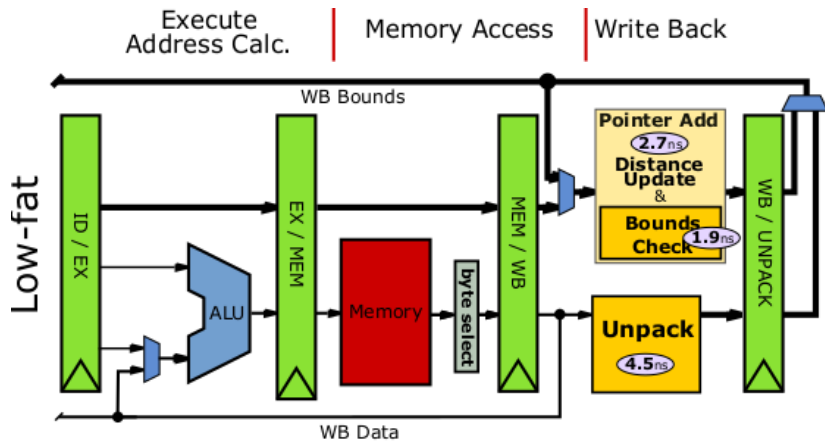
## Complexity and Speed



# MIPS Pipeline



# Low-fat Pipeline



# CHERI Concentrate Pipeline

