

Lecture 5.5

Monday, 18 September 2023 21:08

Cache-aware algorithms know the memory size M and the block size B . They can control the blocking strategy and the replacement policy.

On the other hand, cache-oblivious algorithms do not know the memory size M and the block size B . They also cannot control the block strategy and the replacement policy. Typically, it is assumed that blocks are formed in the order in which data is written to external memory. It is also assumed that the replacement policy is optimal.

Since (proper) cache-oblivious algorithms are efficient for any M and B , they are also efficient at other levels of the memory hierarchy (e.g. layer 1-cache, layer 3-cache).

It should be noted that M and B may still be used as part of the analysis of a cache-oblivious algorithms.