

Cache Write-through Write-back

Cache write through write back

Write-through: Write is done synchronously both to the cache and to the backing store.

Write-back (or Write-behind) : Writing is done only to the cache. A modified cache block is written back to the store, just before it is replaced.

Write-through Cache

Write-back Cache

Write-misses

Write allocate (aka Fetch on write) – Datum at the missed-write location is loaded to cache, followed by a write-hit operation. In this approach, write misses are similar to read-misses.

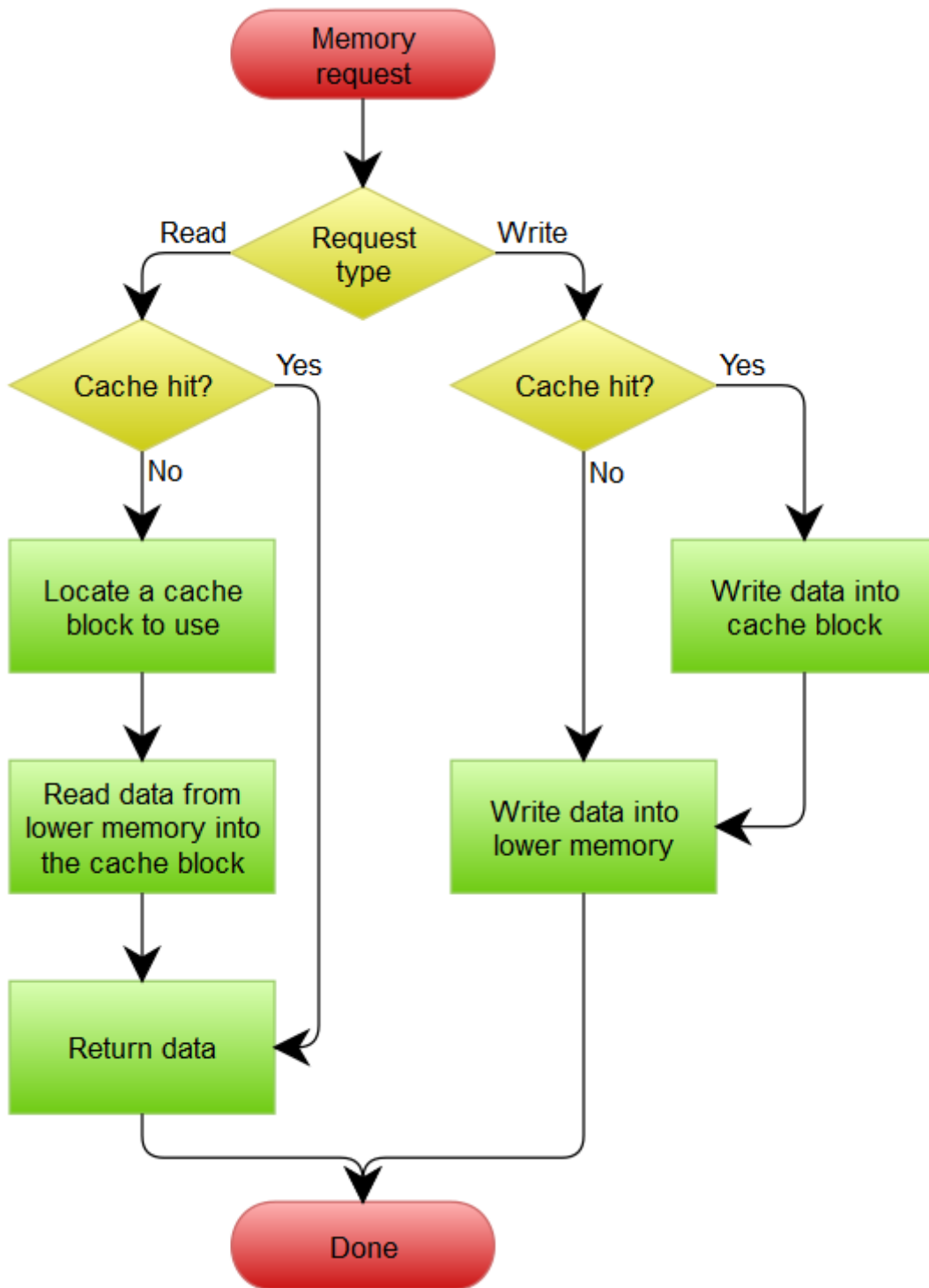
No-write allocate (aka Write-no-allocate, Write around) – Datum at the missed-write location is not loaded to cache, and is written directly to the backing store. In this approach, actually only system reads are being cached.

Write allocate write-hit

No-write allocate

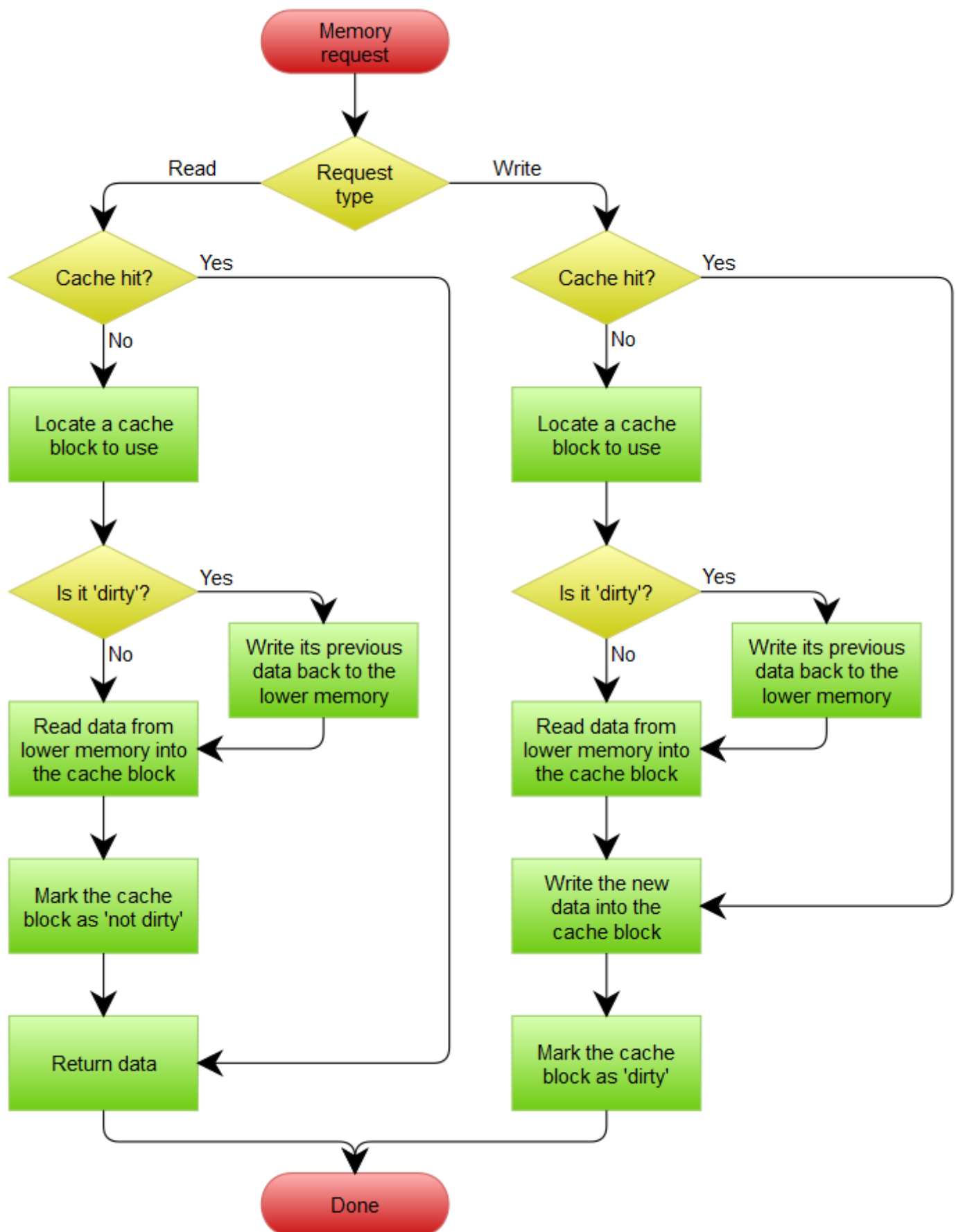
Write-through Write-back Write-back Write allocate Write-through No-write allocate Write allocate Write-back Write-through

Write-through A Write-Through cache with No-Write Allocation



Write-back

A Write-Back cache with Write Allocation



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