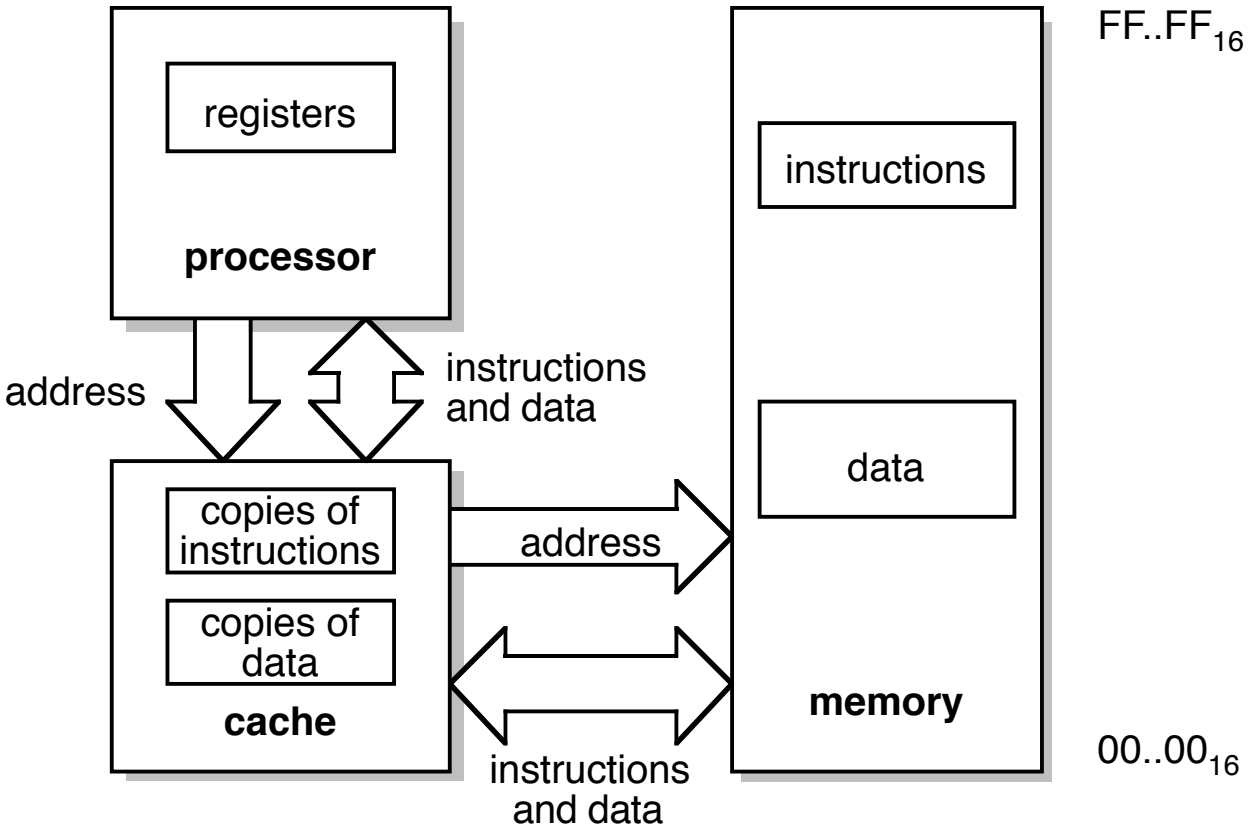
A unified instruction and data cache



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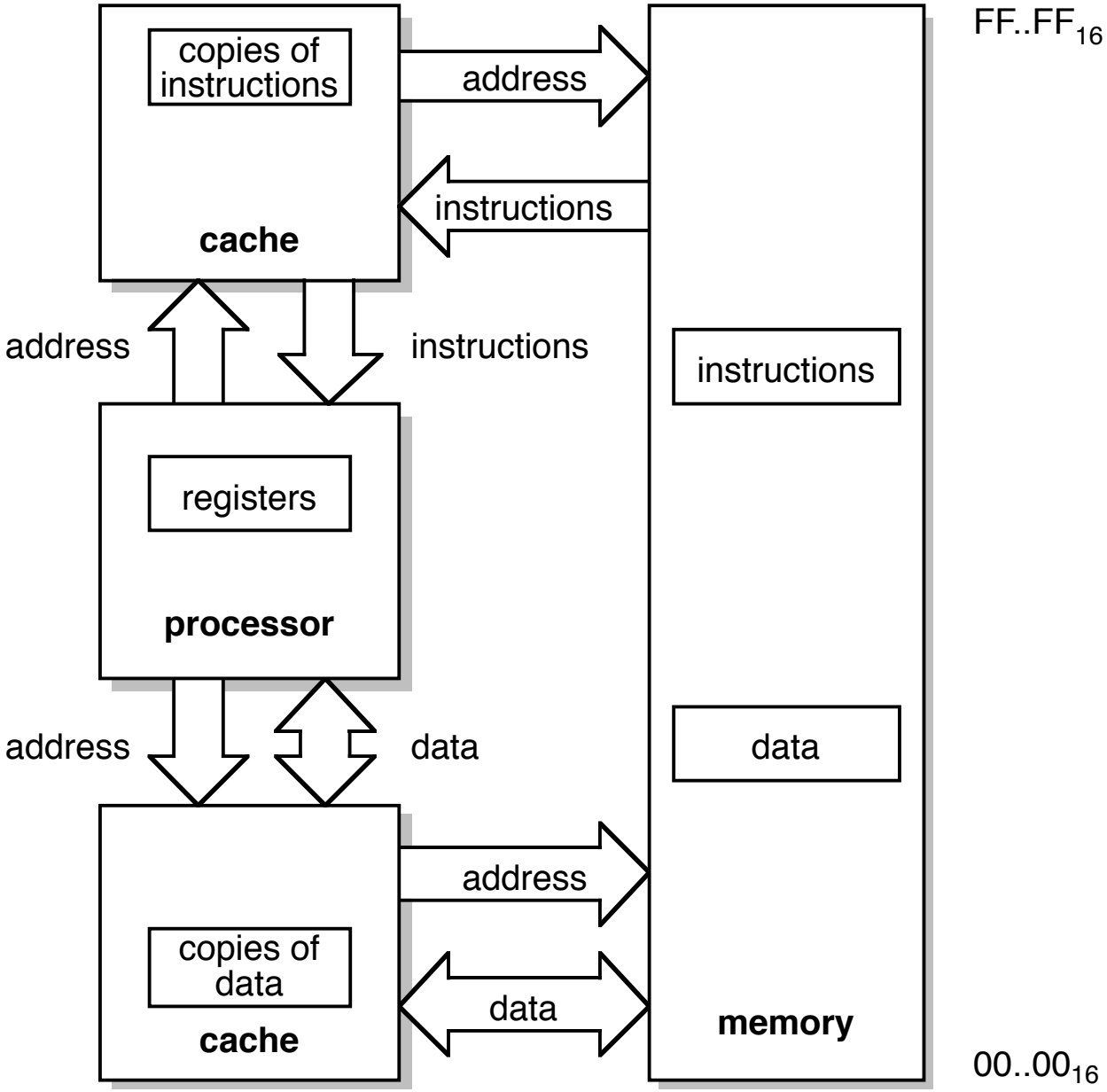
Separate data and instruction caches



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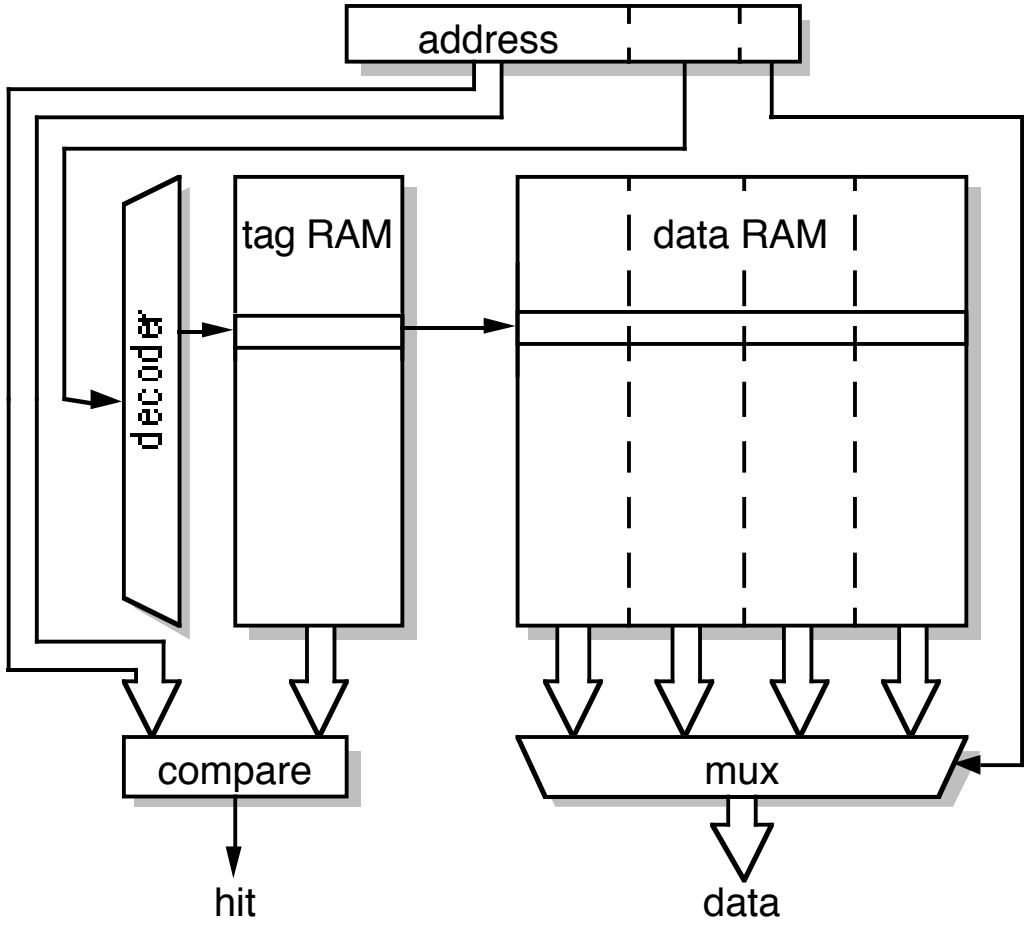
Direct-mapped cache organization



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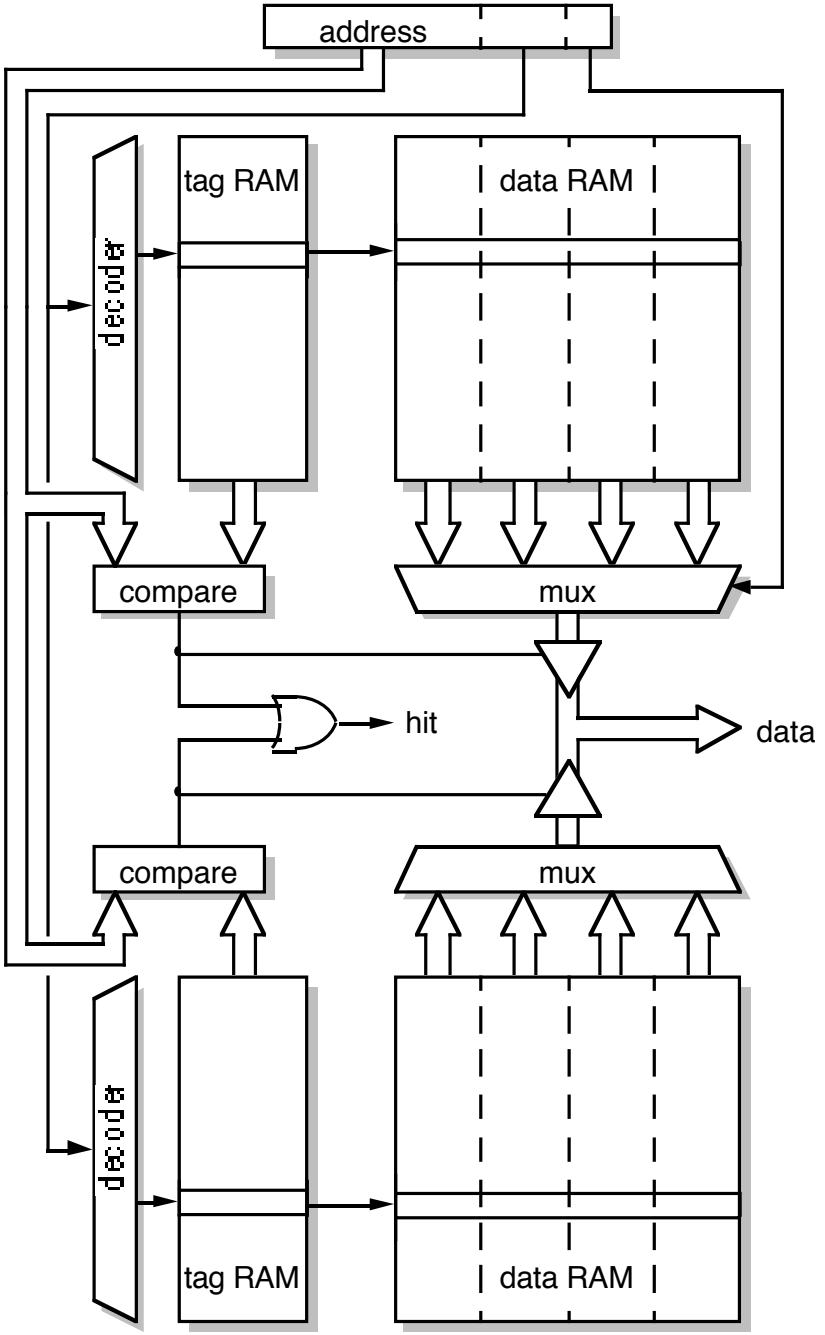
2-way set-associative cache organization



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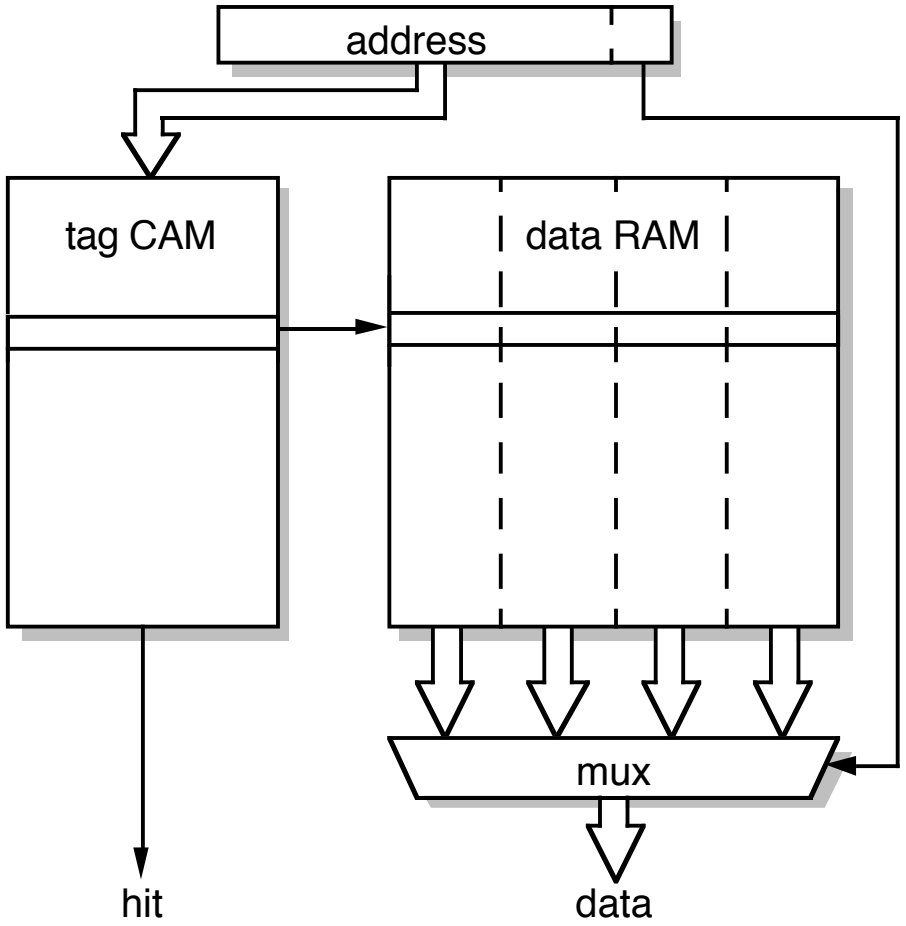
Fully associative cache organization



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Summary of cache organizational options

Organizational feature	Options		
Cache-MMU relationship	Physical cache	Virtual cache	
Cache contents	Unified instruction and data cache	Separate instruction and data caches	
Associativity	Direct-mapped RAM-RAM	Set-associative RAM-RAM	Fully associative CAM-RAM
Replacement strategy	Cyclic	Random	LRU
Write strategy	Write-through	Write-through with write buffer	Copy-back

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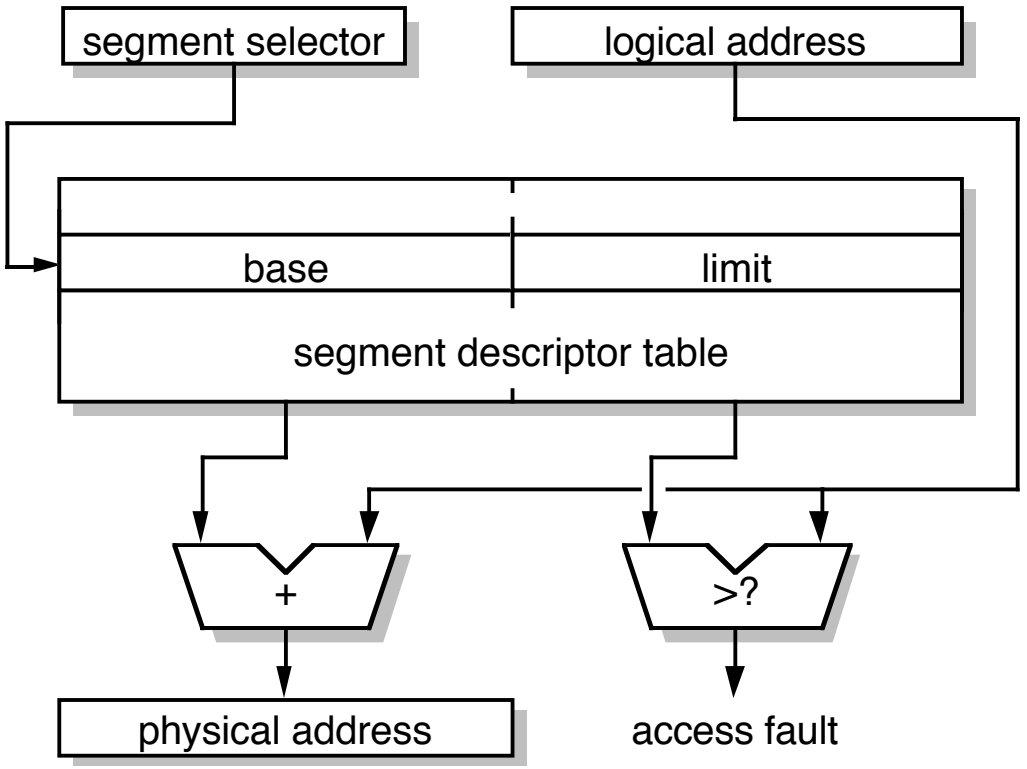
Segmented memory management scheme



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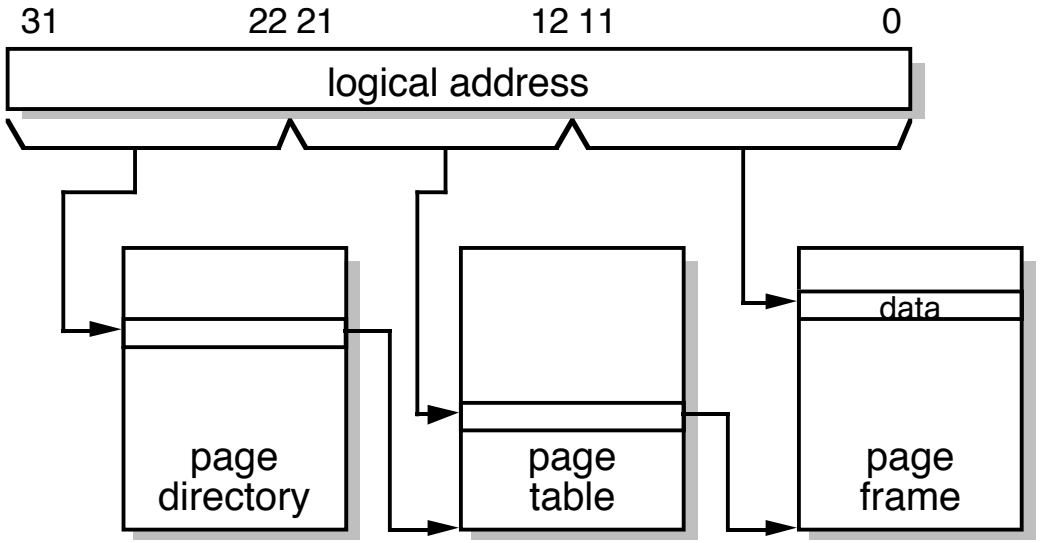
Paging memory management scheme



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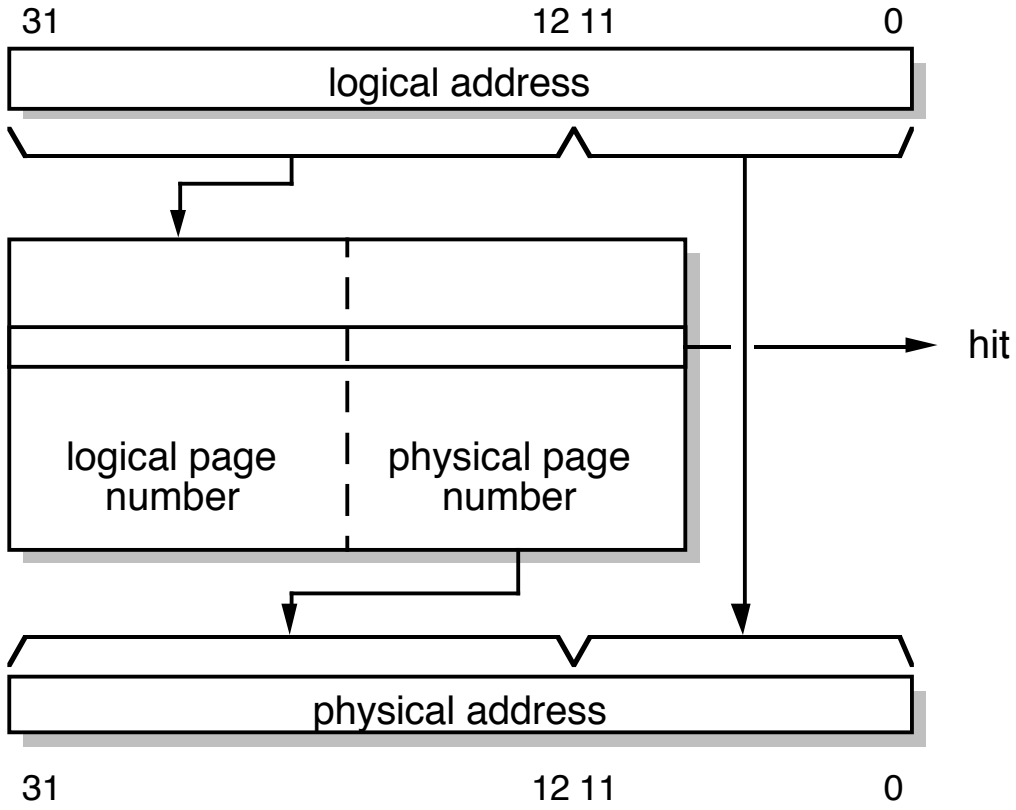
The operation of a translation look-aside buffer



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