30th September, 2009

Computer Systems
2nd Half

Page Table Entry

<table>
<thead>
<tr>
<th>PPN</th>
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R/W — Read/Write
U/S — User/Supervisor
A — Accessed
D — Duty

Used for page replacement
Dirty bit keeps track of modifications

Memory Hierarchy has changed with time

Processor Speed >> Disk Access Speed

Hence, less involvement of Disk

Virtual Address Space > Physical Address Space
Hence we use Page Replacement
Page Replacement

Given an access pattern \( a_1, a_2, \ldots, a_n \in \text{virtual pages} \) and physical pages \( f_1, \ldots, f_m \), \( m < n \)

which does go in?

LRU - Least Recently Used
FIFO - First in First out
OPT - Optimal Algorithm

As can be seen, LRU performs well.