

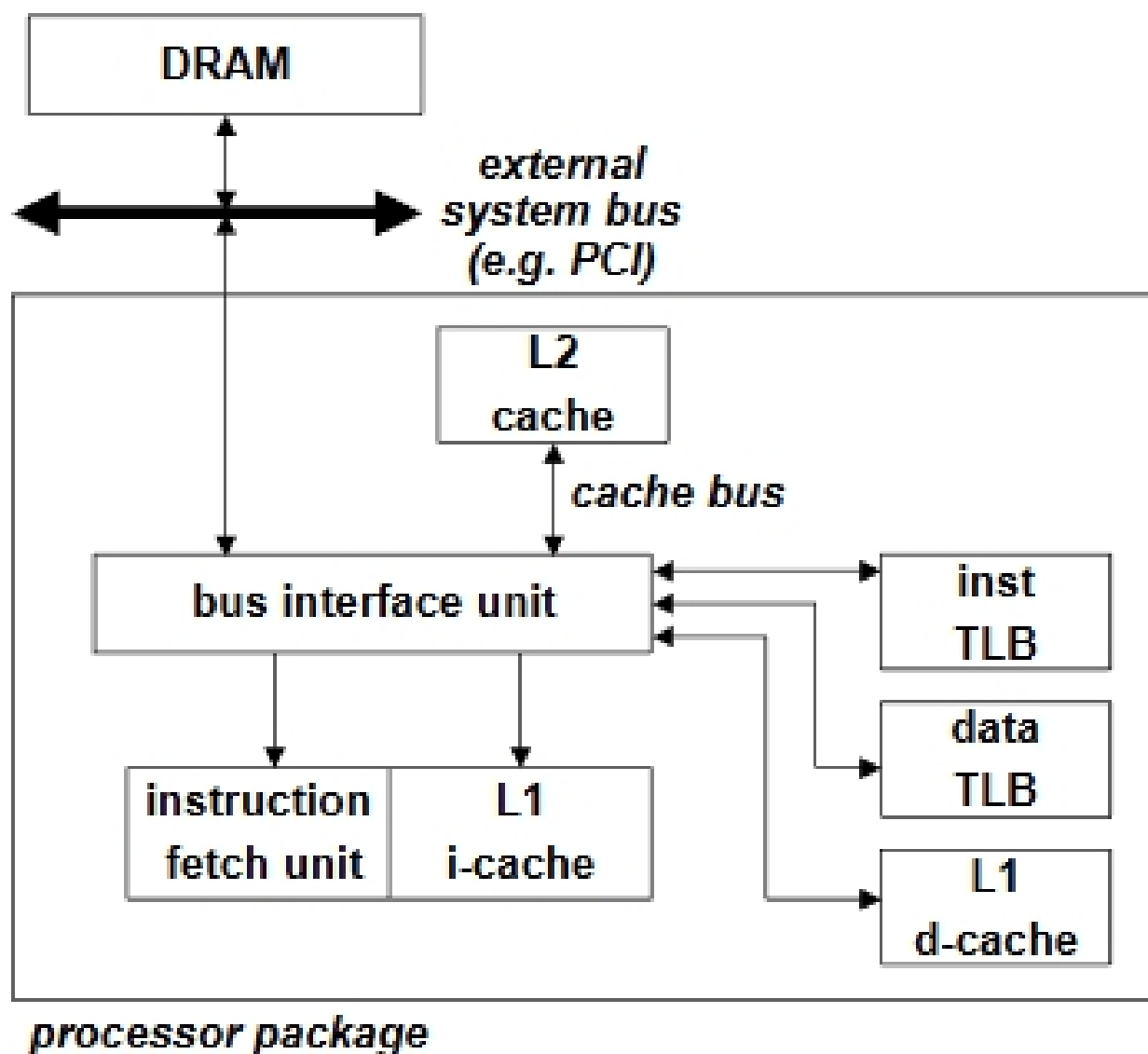
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**Pentium III / Linux Memory
System
April 4, 2000**

Topics

- P-III address translation
- Linux memory management
- Linux page fault handling
- memory mapping

Pentium III Memory System



- 32 bit address space
- 4 KB pagesize
- L1, L2, and TLBs
 - 4-way set associative
- inst TLB
 - 32 entries
 - 8 sets
- data TLB
 - 64 entries
 - 16 sets
- L1 i-cache and d-cache
 - 16 KB
 - 32 B linesize
 - 128 sets
- L2 cache
 - unified
 - 128 KB -- 2 MB

Review of Abbreviations

Symbols:

- **Components of the virtual address (VA)**
 - TLBI: TLB index
 - TLBT: TLB tag
 - VPO: virtual page offset
 - VPN: virtual page number
- **Components of the physical address (PA)**
 - PPO: physical page offset (same as VPO)
 - PPN: physical page number
 - CO: byte offset within cache line
 - CI: cache index
 - CT: cache tag