

Faster Address Translation

Efficient Translations

⦿ **Problem** : expensive memory access

- One-page table : one table lookup + one fetch
- Two-level page table (32 bits): 2 table lookups + one fetch
- 4-level page table (64 bits) : 4 table lookup + one fetch

✓ **Solution : Translation Lookaside Buffer (TLB)** cache translations in hardware to reduce lookup cost