

3. (25 points) Consider a new computer system to be developed using hashed page tables for its virtual memory management. Some of the specifications of the computer system's virtual memory have been defined, as follows:

Virtual Address Width: 64 bits
Physical Address Width: 40 bits
Page Size: 16K bytes

Protection bits will include a User bit, a Writeable bit, and an Executable bit.

Propose a format for an entry in the hashed page table. You may need to have "bookkeeping" bits in addition to the protection bits described above.

4. (10 points) Which is easier: process migration in a shared-memory multiprocessor system, or processor migration in a cluster (in which each node has its own memory, with message-passing used to communicate between the nodes)?