8. Opteron Page Tables

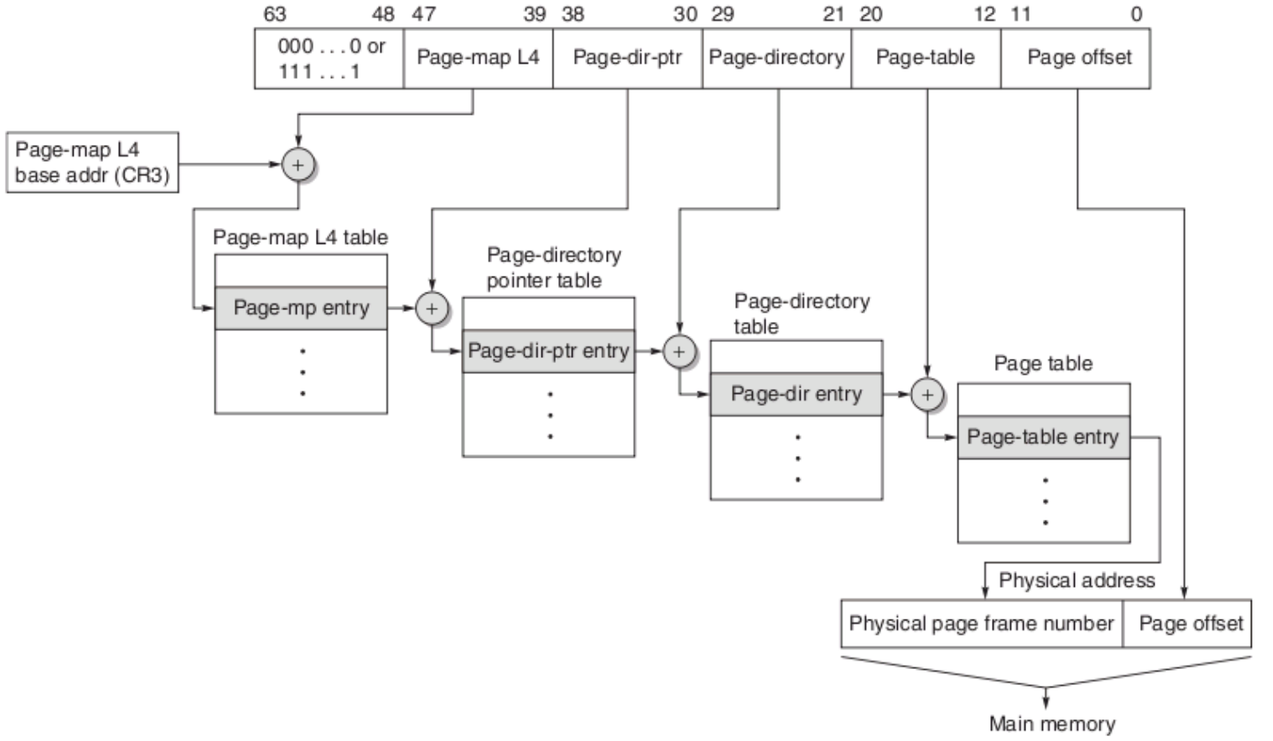

Figure B.27 The mapping of an Opteron virtual address. The Opteron virtual memory implementation with four page table levels supports an effective physical address size of 40 bits. Each page table has 512 entries, so each level field is 9 bits wide. The AMD64 architecture document allows the virtual address size to grow from the current 48 bits to 64 bits, and the physical address size to grow from the current 40 bits to 52 bits.

The Opteron uses 48-bit virtual addresses and 40-bit physical addresses.

The upper 16 bits of the virtual address are just the sign extension of the lower 48 bits.

(from Hennessy & Patterson)