

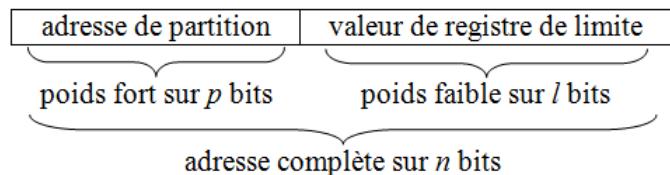
Tutorial Sheet 5

Question On a system with a 64-bit address bus and 4-byte memory word, what is the size of the addressable memory?

Exercise 1. On a system with 2^{24} bytes of memory and fixed partitions, all 65536 bytes in size.

- What is the minimum number of bits needed in a process table entry to record the partition to which a process has been allocated?

If we define the limit register by the value that the movement can take inside a partition. Therefore, a memory address will have the following form:



With $n = p + l$

- How many bits should the limit register have? (value of l)

On a system that uses fixed partitions of size 2^{16} , 2^{24} and 2^{32} .

- How many bits should the limit register have?

Exercise 2. On a system that uses first fit allocation, assume that memory is allocated as specified in the following figure, before further requests of 20 KB, 10 KB, and 5 KB are received.

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10ko	10ko	20ko	30ko	10ko	5ko	30ko	20ko	10ko	15ko	20ko	20ko

- What starting address will each of the other requests be allocated to?

Exercise 3. In a system whose physical memory is managed in simple paging, with a size of 16 page frames and a page size of 8 KB.

- What would be the size of the page table of a process with 40900 bytes of logical memory?