

2000 Paper 1 Question 12

Operating Systems

In the context of memory management, under which circumstances do *external* and *internal* fragmentation occur? How can each be handled? [4 marks]

What is the purpose of a page table? What sort of information might it contain? How does it interact with a TLB? [3 marks]

Describe with the aid of a diagram a two-level page table. Explain the motivation behind the structure and how it operates. [5 marks]

What pieces of information make up the *meta-data* of a file? [4 marks]

Describe the basic access control scheme used in the Unix filing system. How does Unix support more advanced access control policies? [4 marks]