

1996 Paper 10 Question 12

Unix Case Study

For a Unix filing system:

- (a) Describe the organization of the metadata for a filing system held on a single device or partition of a device. Outline any advantages and disadvantages of the approach. [4 marks]
- (b) Explain how the online filing system is constructed from the separate filing systems you have described. [2 marks]
- (c) Describe how hard links and soft (symbolic) links are implemented. Mention any restrictions on their use and any implications of their existence on other file operations. [6 marks]
- (d) Describe how the disc blocks used to store a file or directory are recorded. Discuss whether this method is suitable for a large video file. [2 marks]
- (e) Describe how access control policy is recorded and how access by program, as well as by user, is supported. Discuss this latter mechanism. [6 marks]