2003 Paper 8 Question 5

Advanced Systems Topics

(*a*) Considerable recent operating system research has focused on *extensibility*.

(*i*) What is the motivation for this work? [1 mark]

(*ii*) Describe with the aid of examples *three* different techniques for providing extensibility. In each case comment on the granularity of extensibility provided, and discuss the issues of performance and safety.

[5 marks each]

(*b*) Some researchers claim that programming language virtual machines such as the JVM should be extensible.

(*i*) Why might this be desirable? [1 mark]

(*ii*) How could this be safely achieved? Comment on how your solution might differ from those used in the case of operating system extensibility.

[3 marks]