

CPE 315

Professor Stearns

Study Guide: "The Soul of a New Machine"

1. The major reason for the Eagle project was the creation of a computer with a 32 bit address space. What is the advantage of a 32 bit address space?
Note: A 32 bit address space does not provide for more main memory nor does it enhance CPU performance.
2. Explain the purpose, in detail, of each Eagle board
IOC, IP, ATU, Sys Cache, Memory, Micro Sequencer, CC, ALU
3. Why was the Eagle built with microcode? Explain the rationale for microcode. Also, explain the respective roles of the Hardy Boys and the Micokids.
4. A major theme in the book is the "mode bit". Explain the mode bit and the issues that made it so important in the Eagle project.
5. The Hardy boys built a simulator (similar to our lab simulator) for the Eagle project. Explain why they built the simulator and describe how it was used in the project.
6. The Eagle team used benchmarks to judge the functionality and performance of their creation. Describe at least 3 of the benchmarks they used and explain what the benchmarks mean.
7. Who were the major players on the Eagle project and what were their responsibilities?