

Lecture 15 - Virtual Memory

News

1. There are now Nvidia 8k CUDA core graphic cards with 32gb of memory on them.

Notes

Chapter 6 in the book.

Cost v.s. Speed.

1. GFX Cache - Graphics Cache
2. Distributed (J-Token) - IPFS - Across Network Storage
3. Remote Across Network (AWS S3/Dropbox)

Specter Attack - Side Channel Attacks.

Overview of Windows / Memory - Virtual Memory. The "working set".

Overview of Unix / Linux - Virtual Memory. Server friendly uniform virtual memory.

Non-VM systems. VX-OS. SymbianOS. Most IOT devices. RTOS (Version of Linux)

Memory Controllers and DMA.

Example test question for Next Midterm

1. Explain what the L1, L2 and L3 caches are in an x86/AMD-64 Processor.
2. Explain what NUMA is.
3. What are the good and bad properties of using a QR code for storage.
4. What are the advantages of using the GPU to do processing as compared to the CPU?
5. What is DMA? Explain how it works?

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