

CSE 543 - Computer Security (Fall 2006)

Lecture 13 - OS Security

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URL: <http://www.cse.psu.edu/~tjaeger/cse543-f06/>

An Aside

- Fine vs. course grained access control
 - A fined grained access control system separates rights down to the individual operations that you want to perform on the objects
 - E.g., read, write, execute, delete, modify
 - Course grained systems have not such controls, they simply control “access”
 - i.e., you can do anything OR
 - i.e., the system restricts the set of actions anybody can take (e.g., read-only filesystem)
- There are good trade-offs between these different approaches, and the “best” is really an engineering decision.

Rings of Protection

- Systems defined by hierarchy of privilege levels
- Early Attempts
 - THE (Dijkstra)
 - Completely Hierarchical Approach
- Major Effort: Multics
 - Multiprocessing system -- developed many OS concepts
 - Including security
 - Begun in 1965 and used until 2000
 - Initial partners: MIT, Bell Labs, GE/Honeywell
- First system to achieve B2 rating

