

Outline for January 8, 2007

1. Greetings and Felicitations!
2. Miscellaneous points
 - a. Copy flag and right
 - b. *Own* as a special right
 - c. Principle of attenuation of privilege
3. What is the safety question?
 - a. An unauthorized state is one in which a generic right r could be leaked into an entry in the ACM that did not previously contain r . An initial state is safe for r if it cannot lead to a state in which r could be leaked.
 - b. Question: in a given arbitrary protection system, is safety decidable?
 - c. Theorem: there is an algorithm that decides whether a given mono-operational system and initial state is safe for a given generic right.
4. General case: It is undecidable whether a given state of a given protection system is safe for a given generic right.
 - a. Represent TM as ACM
 - b. Reduce halting problem to it
5. Take-Grant
 - a. Counterpoint to HRU result
 - b. Symmetry of take and grant rights
 - c. Islands (maximal subject-only tg -connected subgraphs)
 - d. Bridges (as a combination of terminal and initial spans)