EECS 678: Lab 10 - The /proc Filesystem

Gehrig Keane
2727430

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Is lack of change in system and user time in between sampling periods a guarantee that deadlock has occurred? Explain briefly.

The lack of a time delta provides no conclusive information with regard to deadlock assurity. Though, we may observe higher frequency in un-scheduled threads with smaller time samples, this is purely a function of coincidence.

What aspects of the system conditions would affect how long the sampling period should be to ensure a reliable assessment of whether deadlock has occurred or not.

The relative processor activity during experimental execution will have a noticable affect on sampling reliable sampling periods. Additionally particular processor clock timing could influence this facet.

Informal experimentation tends to show that larger values of ACTIVE_DURATION make deadlock less likely, as indicated by how many sampling periods it takes to occur, and that smaller values make it more likely. Try a few different values yourself and then discuss whether you think this is true, and why you think it might have the influence you observe.

The ACTIVE_DURATION value directly effects the rate of chopstick acquisition in that longer ACTIVE_DURATION's will lower said chopstick acquisition. Another method of describing this fact, when ACTIVE_DURATION is large diners fail to exhibit deadlock behavior on a more frequent basis.