

April 7, 1969

TO: Multics Performance Log
 FROM: J. H. Saltzer
 SUBJECT: Performance Clues to follow up

Clue	reference
1. Why does page fault time distribution and mean vary drastically among systems between 2.2 and 2.3?	MPL-7
2. Why are there an average of 20 links snapped per command?	2.2.e mod II certification
3. Why are there an average of 75 wall crossing faults per command?	2.2.e mod II certification
4. Why is ring one linkage segment so heavily used? (implies ~1000 calls/command)	10-nothings metering
5. Why do linkage faults take ~60 ms to handle?	2.2.e mod II certification
6. Why does process creation take 40 seconds and cause 700 wall crossings 182 linkage faults 84 segment faults and 550 page faults?	2.2.e mod II certification
7. Wall, link, page, and segment faults account for 32 seconds of process creation. Where do the other 8 go?	2.2.e mod II certification
8. Why do wall crossings in one direction (presumed inward) require 4.6 ms?	2.2.e mod II certification
9. Why do some outward returns take much longer than others?	2.2.e mod II certification
10. Why are there many page faults which require ≥ 30 ms to handle?	2.2.e mod II certification
11. Why do some segment faults require as much as 10 seconds to handle?	Console session metering

Clue	reference
12. Why are there an average of 200 page faults per command?	2.2 e mod II certification
13. Why is the average of 200 page faults per command the same in the typical user script as it is in the "flush-echo" script?	1.10 certification
14. Why do some linkage faults require 500 ms to handle?	2.2.e mod II certification
15. Why does new file system still have 24k of wired-down procedure?	New file system checker
16. Why are segment fault handling times much greater in console sessions than in certification runs?	Console session metering
17. Why are there a few 300 ms page faults?	Console session metering
18. Why do typewriter interrupts require an average of 11 ms to handle?	2.2.e mod II certification