

MPL-41

TO: Multics Performance Log

FROM: A. Sekino

SUBJECT: Summary of the MULTICS performance improvement
of this summer

DATE: October 28, 1969

Because the PDP-8 computer is currently down, it would be a good chance to review the MULTICS performance development, of the last three or four months, observed by the PDP-8 User Simulator System. This note reviews the process of bringing MULTICS into the status that its performance is compatible or superior to the CTSS performance, in terms of the following three performance parameters:

- 1) The total CPU time required by the script, MFTN3, which includes 66 interactions.
- 2) The average number of page faults induced by an interaction.
- 3) The system response time, namely the time during which the user has to wait for the first system response after issuing a command.

In this note, the performance of the following stages of MULTICS will be considered.

SYSTEM No.	DATE
3.0.11	June 25
3.0.14	July 13
3.1.1	July 28
3.8	August 29
3.9	September 4
3.12	September 18
4.0	September 25
4.1	October 3

It will be seen that all of the total CPU time, the number of page faults per interaction, and the system response time have decreased to less than half of their original values for a fixed number of simultaneous users, during the three months from June 25 to October 3.

Total CPU time
sec. spent by the script MFTN3
(66 interactions)

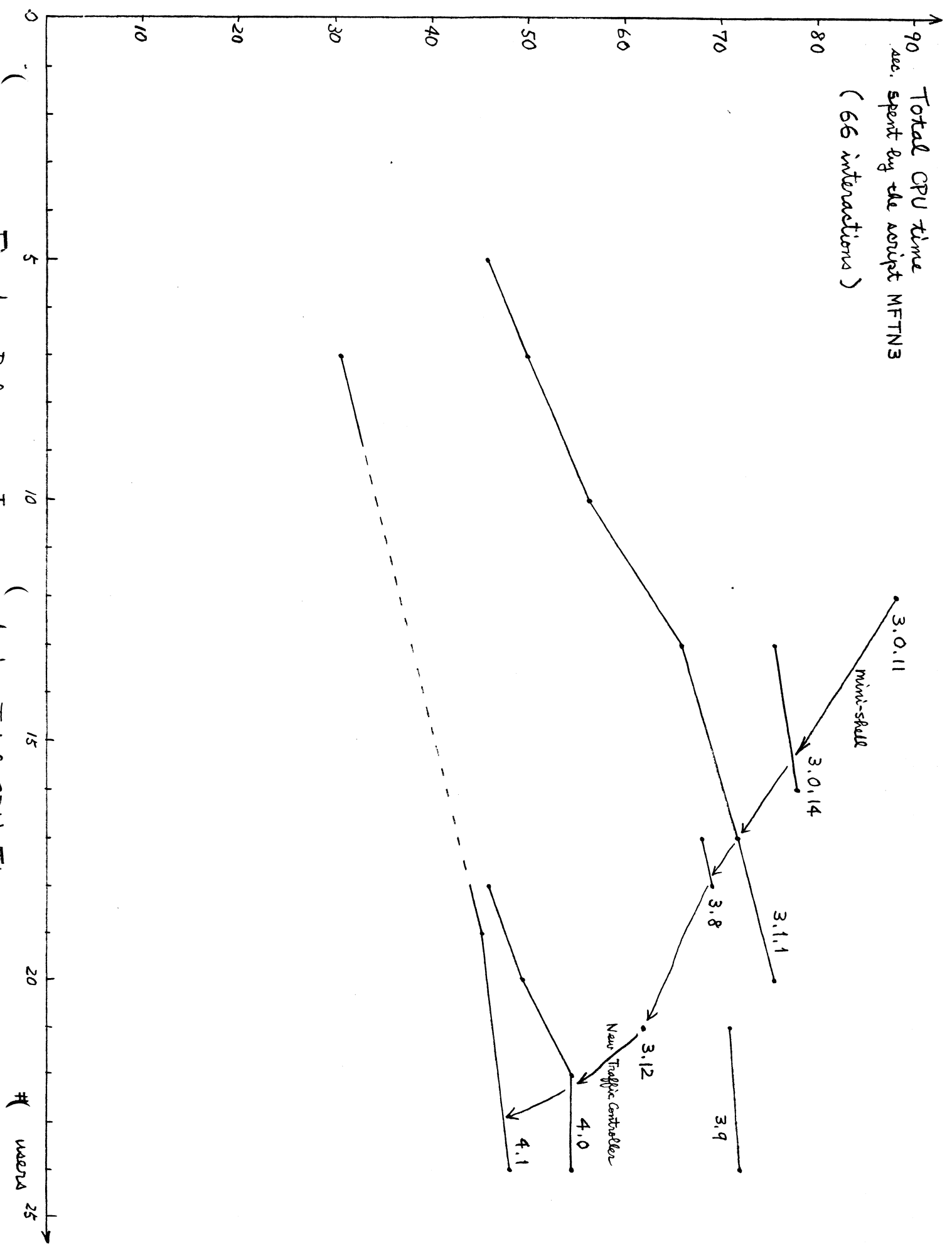


Fig. 1 Performance Improvement in Total CPU Time

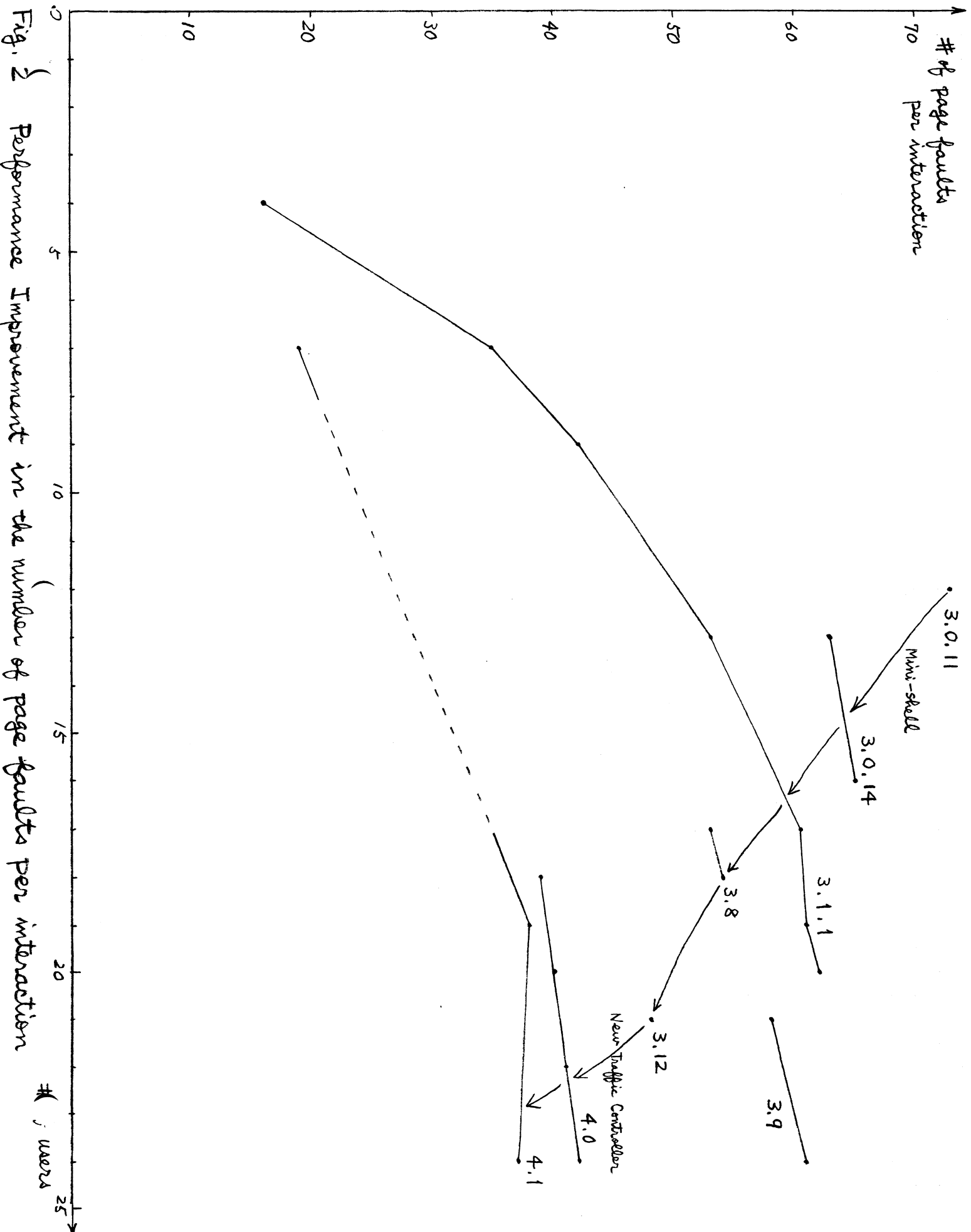


Fig. 2 Performance Improvement in the number of page faults per interaction

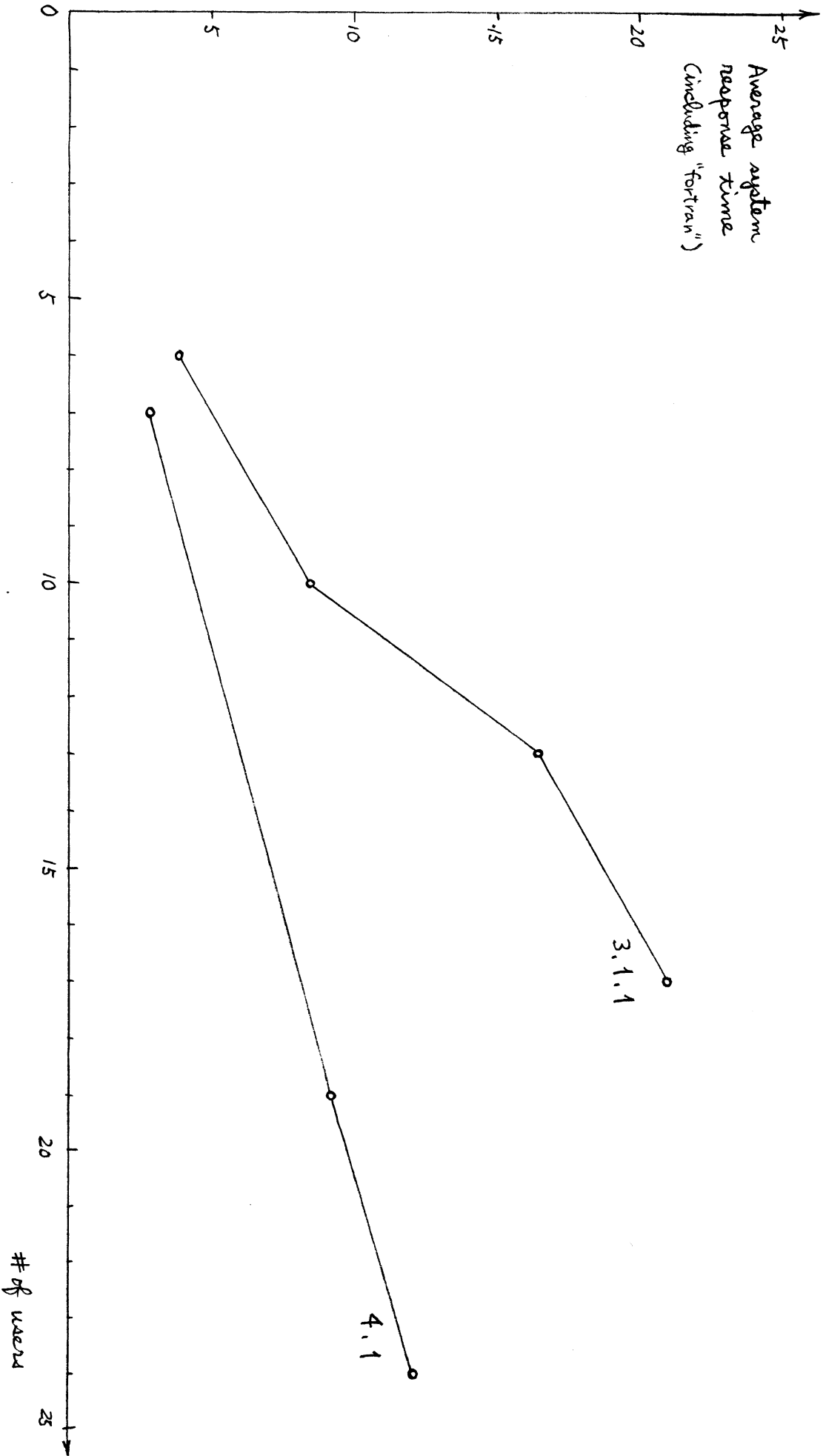


Fig. 3 Performance Improvement in System Response Time