

TO: POUGHKEEPSIE

FROM: POUGHKEEPSIE
Dept. 539, Bldng. 702

MEMO TO: Mr. J. C. Gibson

August 6, 1957

SUBJECT: Ultra High Speed Tapes and Disks

Reference: Your two file memos of July 30, 1957.

A general comment is that your earlier suggestion of sequential operation for lower-speed devices with multiprogramming is attractive because of its simplicity. Sequential operation may well be the preferred programming technique there. With high-speed units, however, the situation appears to be quite different. We must allow for maximum speed on a single job when little or no multiprogramming is done.

A few specific points suggest themselves.

1. If computing overlaps tape/disk operation, is there any real memory saving? Non-overlapped computing is surely unacceptable because it slows down otherwise tape/disk limited jobs.
2. What is the effect of a fixed gap time on tape? It seems as if we would have to double the block length for a given efficiency on blocked (grouped) records, if the word rate were doubled, thus nullifying any savings in memory buffer area for sequential operation.
3. Assuming that the tape goal of 7 to 8 microseconds per word will not be substantially exceeded in any case, are we to forego the doubling of performance possible on tape-limited jobs by simultaneous reading and writing?
4. The only 4 microsecond word rate configuration for disks, with which I am familiar, involves a considerable decrease in density and hence storage capacity (4 mill. vs. 1 mill. words). Given the same net performance, surely high capacity is very important. Moreover, LASL representatives have stated verbally that their interpretation of the contract had been: 4 usec reading and 4 usec writing, or 8 usec per word read and written. Our current proposal is, therefore, within the spirit of the contract. It has been verbally accepted by LASL.


W. Buchholz

WB/pkb

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