

April 24, 1957

FILE MEMO

SUBJECT: STRETCH. Exchange without a Crosspoint Switch

On 4/10/57 I asked Mr. H. Wild and Mr. R. Fletcher for their comments on an Exchange with no crosspoint switch. This idea was motivated by a desire to economize on Exchange hardware.

The idea is to eliminate the crosspoint switch by providing an Exchange of square dimension; i. e., one with as many channels as input-output units. Thus, each I/O unit would have a permanently assigned channel with implied economies in channel assignment activities.

Though it was not discussed, it is conceivable that channel address registers could be eliminated and control and status problems be simplified.

The idea is not without its compromises, however, for the number of medium speed I/O units that could be handled would be limited to about 32. It would be possible to achieve this maximum by limiting the speed of all medium speed I/O devices to 729 Model I tape speed. This would perhaps reduce the speed of Direct Access Disks though there is no reason application-wise for having faster disks than tapes. It might also be necessary to drop the grouping-distribution feature. (See my memo of this date on this feature).

Messrs. Wild and Fletcher commented that considerable hardware is certainly a part of, and auxiliary to, the crosspoint switch but that elimination of the crosspoint would complicate the scanner. Intuitively they felt this complication would nullify the benefits of elimination of the crosspoint. They implied that a serious study would be required to settle this point and that their present progress on the crosspoint would not warrant such a study.

Jack C. Gibson
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JCG/jv

cc: Mr. H. K. Wild
Mr. R. P. Fletcher