

July 15, 1957

FILE MEMO : Project 7000

SUBJECT: Maximum Number of I/O Adapters for the Basic Exchange

This memo intends to suggest that a limit of 32 input-output adapters on the basic exchange is too restrictive. It suggests this by providing an example from which to extrapolate. This technique was chosen because the details of the example were quickly and cheaply available.

A report dated 7/3/57 reveals that customer #9249006^{Doc. 924} presently has the following equipment installed at one location:

<u>I/O Units</u>	<u>Others</u>
5 - 714	1 - 705
4 - 720	6 - 760
4 - 722	1 - 754
24 - 727	1 - 745
<u>37</u>	4 - 758
	4 - 759
	1 - 782

Observing that only 4 - 760's are needed to control the 4 - 720's and that use of 2 - 760's for tape control suggests that 10 - 727's are assigned to the 1 - 754, one infers the following assignment of equipment exists:

<u>On Line</u>	<u>Off Line</u>
1 - 714	4 - 714
	4 - 720
	4 - 722
10 - 727 (754)	12 - 727
2 - 727 (760)	
<u>13</u> +	<u>24</u> = 37

If Project 7000 equipment were provided to duplicate this equipment, the customer would probably order the following:

<u>On Line</u>	<u>Off Line</u>
1 - Card Reader (C. R.)	2 - C. R.
	4 - 720
	2 - Card Punches
2 - 729 I (To communicate with 729 III units)	8 - 729 I

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<u>On Line</u>		<u>Off Line</u>	
2 - 729 III (To communicate with 729 I units)			
2 - 729 I (To use on main job.)			
<u>6 - 729 III (To use on main job.)</u>			
13	+	16	= 29

This customer apparently has heavy off-line I/O requirements and low computer requirements. He is achieving a high degree of simultaneity now by operating many units off-line and by use of 2 - 760's on-line. For his current work he probably has no need for the high speed processing that tapes of speeds in excess of that of the 729 III would provide; i. e. the 729 III would be his fastest unit.

Because the 7000 equipment listed above would cost him significantly more than his present equipment, he would probably not be justified in ordering 7000 equipment unless he had new and demanding applications to process. The equipment listed above makes no provision for multiprogramming two main applications together with existing off-line type operations. Also observe that to add one tape-to-print and one tape-to-punch operation would require 4 more units pushing the total immediately to 33.

On-order figures for this customer were not quickly available.

This customer seems to have the largest number of I/O units installed at one location with a single main frame. Others come close — customer #9230061 has 32 units, customer #105203 has 29 units, and customer #3691612 has 28. *GM-allison*

Customer #9094016 has 88 I/O units (700 series) presently installed in one room. This customer has many more in other locations.

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