TO: M. M. Jones

FROM: R. C. Daley

DATE: February 13, 1969

SUBJECT: Configuration of the Multics Development Machine

Introduction

This document proposes a series of changes in the configuration of

the Multics development machine in an attempt to minimize the cost to

Project MAC and maximize usefulness of the machine. These changes

are described in terms of the four steps outlined below.

Step 1 - As soon as possible the development GIOC is

stripped down to development status by removing a number

of specialized communication line adapters leaving only

two typewriter adapters of 16 channels each. This will

give us enough capability for development work and pro-

vide a limited form of backup for the other GIOC. As

a result the development GIOC cannot support ARDS terminals,

or remote computers and displays and will only be able

to handle 2 classes of typewriters (e. g., 133 and 150

baud).

Step 2 - As soon as possible the development machine is

augmented with an additional memory controller and 64K

of memory for the duration of the file system perfor-

mance improvement effort which is expected to be terminated

before June 1. This augmentation assures that all develop-

ment work may continue on the development machine while

the larger Multics machine is used to begin replacing CTSS

as the primary service machine for the Multics effort.
Due to the reduced core requirement of the new file system,
the additional core may be released as soon as the new
file system is installed without impairing development
work significantly.

Step 3 - Once the system maintenance and MST generation
activities have been successfully moved from CTSS/GECOS
to Multics, the lower speed Univac drum (and it's associated
channel) can be released. Since this drum is only useful
to improve the performance of GECOS (Multics has no use
for it), it should be released by April 1. In addition,
the high speed tape drives should be replaced by lower
speed drives at this time.

Step 4 - Once the new file system is operational (before
June 1), the additional memory controller and 64K of
memory can be released.

Hardware to be released as soon as possible

1	HPC600 - High Performance Channel (no longer required after RACE removed).	680
1	CAA600 - Character Asynchronous Adapter	195
3	CAC600 - Character Asynchronous Channels	255
1	CSA600 - Character Synchronous Adapter	195
3	CSC600 - Character Synchronous Channels	255
1	DGA600 - Dialing Adapters	130
8	DGC600 - Dialing Channels	280
	Note: We may also release the 2-801ACU (automatic calling units to the phone company).	
1	TTA600 - Typewriter Adapter	420
2	TTC600 - Typewriter channel groups (8-channel)	250
2	TTL600 - Typewriter channel group extensions	130
1	OPT815 - Interrup Cell Groups	105
	TOTAL	2895

Active Unit Parts

<u>Hardware to be acquired as soon as possible</u>

1	MM8030 - Memory Controller (w. 32K)		6760
5	OPT802 - Action Unit Parts (2 included)		252
1	OPT815 - Interrupt Cell Groups (1 included)		NC
1	AMM600 - Added Memory (32K)		4475
		TOTAL	11487

<u>Hardware to be released and acquired on April 1</u>

<u>Release</u>:

1	MDU200 - Magnetic Drum Unit		3435
1	MDC200 - Magnetic Drun Controller		NC
1	HPC600 - High Performance Channel (for Drum)		680
4	MTH373 - MT Handlers (120KC, 7 trk)		3580
		TOTAL	7695

<u>Acquire</u>:

4	MTH301 - MT Handlers (60KC, 7 trk)		-2460
		TOTAL SAVED	5235

<u>Hardware to be released June 1</u>

1	MM8030 - Memory Controller (w. 32K)		6760
5	OPT802 - Active Unit Parts (2 included)		252
1	OPT815 - Interrupt Cell Groups (1 included)		NC
1	AMM600 - Added Memory (32K)		4475
		TOTAL	11487

Hardware Rental

Step	Price	- Discount	= Subtotal	+ Use	= Rent
0 (Now)	66584	13316	53268	2664	55932
1 (March 1)	63687	12736	50953	2548	53501
2 (March 1)	75176	15034	60142	3007	63149
3 (April 1)	69941	13988	55953	3798	58751
4 (April 1)	58454	11690	46764	2338	49102

cc: C. T. Clingen
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       J. H. Saltzer