

W/o imp., manually started scripts, 6 consoles
 MSS 1.4 ready messages from Oct. 10, 1968 1520 run

(output of 1 host); $CP = 64/sec$
 $2max = 2$

Oct. 10, 1968

print-DBM

#1	5.5	49.8	221
2	7.5	58.3	378
3	7.6	59.3	409
5	7.1	61.7	375
6	9.6	80.0	387

flush

9.0	9.7	99
9.7	12.3	138
9.9	13.2	164
10.3	13.7	168
17.3	18.2	120

1/12K AST

Change-when

3.1	7.4	95
4.5	7.5	92
4.4	7.8	101
4.7	10.4	132
6.4	10.7	67

Time

38.5	9.5	132
?	10.2	139
71.0	11.4	157
44.8	12.9	191
132.6	30.4	283

← 77
 How can this be??
 explanation: 1/3 size
 blocks it after 5 lines

echo; echo

33.6	6.3	66
3.5	4.0	22
3A	4.2	24
4.4	6.2	67
36.1	11.1	93

print

112.1	14.3	179
134.9	16.8	218
156.0	17.6	229
78.5	20.4	308
80.7	34.1	252

1.4 (p.2)

nothing

1.6	2.1	36
1.6	2.2	36
46.1	5.5	94
2.8	5.9	100
2.6	3.1	36

Time

66.7	8.9	122
109.3	11.1	143
49.0	10.6	147
29.0	12.6	166
24.?	18.8	177

flush

10.8	12.2	307
10.9	12.4	309
58.9	13.7	324
11.0	12.8	319
24.3	25.4	301

flush echo

13.1	17.4	395
14.2	14.8	331
14.4	18.4	397
14.1	18.2	387
32.4	34.1	365

echo

1.4	3.4	51
9.9	9.5	141
1.5	4.2	61
1.7	3.6	56
2.1	5.1	51

total

11:33.7	2:21.4	1703
12:11.1	2:39.7	1951
12:16.4	2:46.4	2107
9:12.6	2:59.0	2269
8:19.0	4:31.6	2132
	<u>15:18</u>	<u>10162</u>

av 3:05 ± 44 av 2032

∴ <18:21> ^{± 44} total; ∴ <12:194> t

1.4 (p.3)

est. Completion times	Multis-in-op time	io p time
#1 1533:14.4	1521:32.0	1520:55.9
2 1535:44.0 ^(?)	1523:16.6	
3 1537:04.3	1524:37.7	
5 1538:07.9	1528:43.7	
6 1539:27.9 (?#4)	1530:55.1	1531:12.8

Meter start: 15:20:33.2

meter stop 1544:11.5

$\Delta (\#1 \text{ Multis-in-op} - \#6 \text{ est complet.}) = 17:56.1$ which is consistent w/ $\langle 18:21 \rangle^{\#44}$ total CPU.

but we know it is ~9 sec from M-in-op time to listener, hence
 \Rightarrow Total metered CPU time = $\langle 17:46.1 \rangle$

w/o m-p, manually started scripts, 6 consoles,
 MSS 1.5 ready messages from Oct 10, 1968 1838 Mem

Q = 64 sec, lmax = 2

Oct. 19, 1968

total

#1	7:44.9	2:03.9	1442
2	13:57.1	2:58.9 ^(?)	1768
3	13:28.4	2:52.7	1864
4	10:43.1	2:56.3	1832
5	9:17.9	3:11.1	1898
6	8:18.0	<u>2:59.9</u>	<u>1840</u>
		17:03	10644
		av 2:50.5	av 1774

total metered CPU time

w/ 8K ASF
 by mistake

#	est. Completion time	Multisim-op time	cp time
1	1825:46.5	1817:58.6	1817:24.3
2	1833:33.7	1819:32.9	
3	1834:27.8	1820:55.2	
4	1834:47.6	1823:58.7	
5	1835:45.3	1826:21.2	
6	1836:05.4	1827:41.6	

and $\Delta [(\#1 \text{ Mult-in op}) - (\#6 \text{ est compl.})] = 18:06.8$ ← extra minute seems to represent ~10 sec in Multisim-op to listener and about 55 sec in idle proc.?? or else waiting for switching data set to data??

1.5 (p. 2)

print dhrs

#1	4.4	38.6	150
2	6.3	44.8	273
3	6.8	52.6	321
4	8.9	62.8	333
5	7.8	68.2	336
6	9.0	68.1	368

change wdin

1	2.2	3.0	7
	?	?	76
	3.6	12.3	102
4	3.4	8.9	89
5	3.9	10.0	94
6	3.7	11.0	94

echo; echo

1	4.5	2.2	0
2	47.8	6.7	73
3	93.1	13.7	112
4	74.3	11.1	98
5	86.6	8.5	88
6	28.2	10.0	89

flush

7.4	7.9	67
7.9	8.3	73
8.4	8.8	72
8.6	9.0	75
8.4	8.8	73
8.2	8.7	72

time

42.0	9.5	156
77.9	11.3	141
72.9	11.9	146
44.3	13.4	142
44.9	12.5	131
21.7	10.1	124

print

66.4	12.2	152
?	27.6	23?
117.9	21.2	214
42.6	18.5	172
93.5	22.8	248
82.5	16.9	213

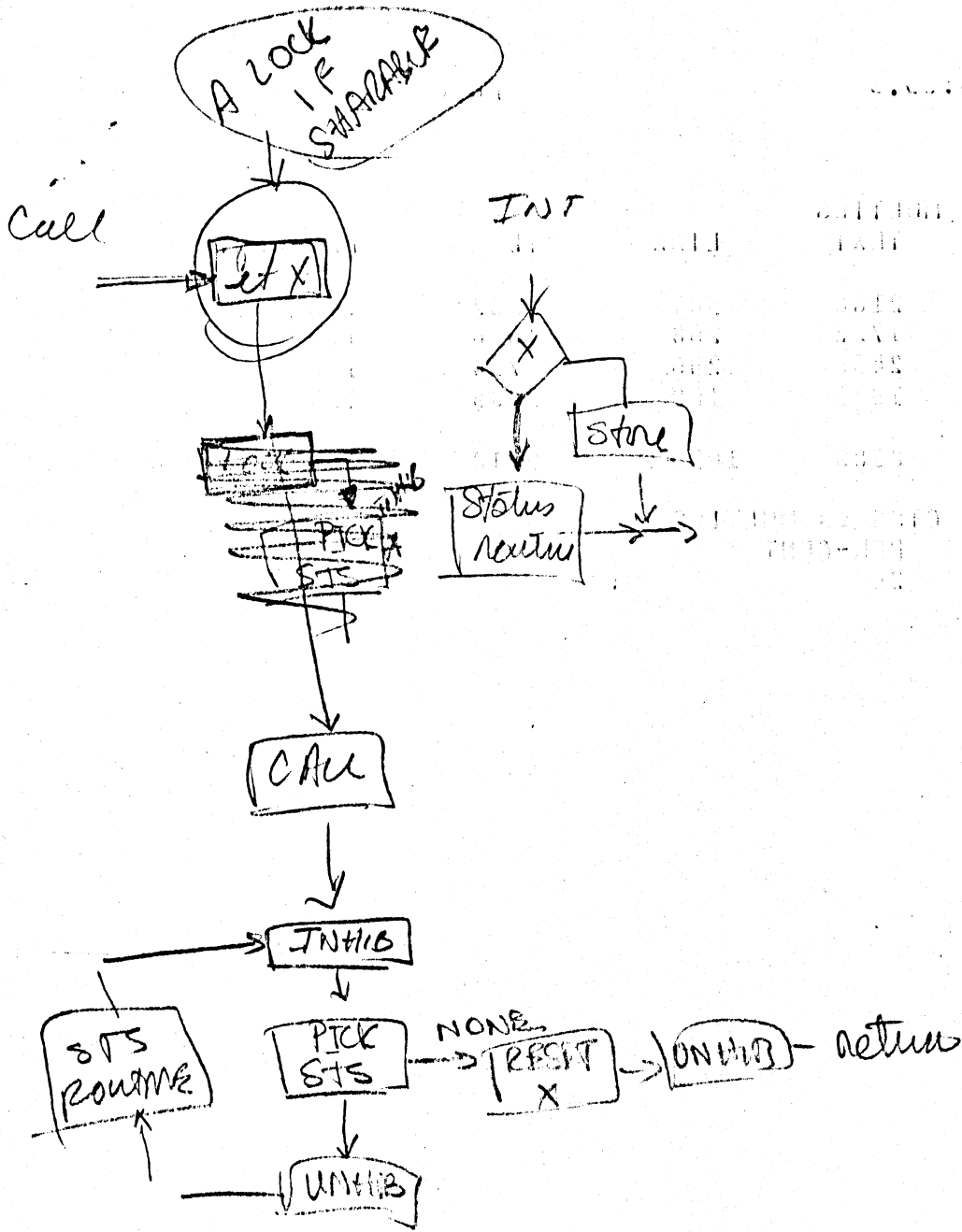
Code size	CTSS	vs	MULTICS			
SEG	BSS		TEXT	LINK	TL	PER-CENT
qed0	1696		2188	304	2492	146
qed1	1241		1722	268	1990	160
qed2	1845		2438	296	2734	148
qed3	1655		1923	162	2085	125
total	6437		8288	1030	9318	144

Time ^(sec) in execution

CTSS	MULTICS	PER-CENT
4.4	11.8	268

does not include sweep time

lack command with minimum page waits



BCPL Experiments by K. Thompson

Oct. 28, 1968

- Experiments on Multics ~~was~~ time were done w/
 - only K. Thompson on tests
 - multiple use of QED command before calibration ~~time~~ in order to minimize paging
 - tried to bias toward long commands to minimize % effects
- CTSS^{BCPL} before improvement recently was $\sim 1:1$ w/ Multics:BCPL in execution
- Problems + Questions?
 - purity
 - shortage of bases (?); segmentation (?)
 - overhead of in and out of BCPL
 - failure to exploit intercalated statics (?)
 - need for a loader (?)
- note times given include initial entry times of 2.0 sec for BCPL-Mult. and 0.4 for BCPL-CTSS