

MPM121
 3/31/71
 #users = 41
 MFTN3
 14.12

***** MULTICS PERFORMANCE ANALYSIS *****

USER NO	COMMAND	TIME	CPU TIME	NO OF P.F.
0	login	1120	3.584	14 + 209
	edm	1129	5.031	185 + 290
	fortran	1131	5.302	29 + 319
	edm	1136	2.537	87 + 219
	fortran	1138	4.430	36 + 368
	rename	1139	.757	8 + 59
	print	1140	1.236	6 + 88
	a_prime\$prime	1144	3.857	9 + 273
	list	1145	.870	8 + 95
	df	1145	1.416	7 + 75
	edm	1154	3.637	200 + 257
	fortran	1155	3.238	12 + 251
	edm	1200	2.335	99 + 180
	fortran	1203	4.472	15 + 354
	rename	1203	.487	6 + 32
	print	1204	.756	10 + 52
	b_prime\$prime	1206	2.033	23 + 151
	list	1206	.525	6 + 41
	df	1207	.873	6 + 46
	logout			+

***** SUMMARY *****

USER NO	TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO OF P.F.	NO OF INTER-ACTIONS	AVERAGE CPU TIME	AVERAGE RESPONSE TIME	AVERAGE NO OF P.F.
USER 0	43.792	2756	752 + 3150	66	.663	165(10.8)	11+ 47

***** #users

(25.436	1465	375 + 1786	33	.771	26.1(17.4)	11 + 54	41 first half
	18.356	1259	377 + 1364	33	.556	7.0(4.2)	11 + 41	40 second half

↑
average except "fortran"

Note: The response time of "a_prime \$prime" was exceptionally very long (163.6 sec.). Therefore, the response time statistics for the first half of the script were distorted as above. The response times of "fortran" were 23 + 88

Total metering time 0:16:36

MPM121

Ave queue length	14.50	}
Ave eligible	4.65	
Working-set factor	.50	
Working-set addend	0	
Te first (seconds)	2	
Te last (seconds)	2	
Ti max (seconds)	8	

IDLE TYPE	TIME	%
Total idle	0:02:26	14.69
Multi-prog idle	0:02:16	13.67
Non-multi-prog idle	0:00:00	0.00
Zero idle	0:00:00	0.00

COUNTER	TOTAL	ATB	#/INT
Interactions	198	5.034 sec	
Loadings	1224	.814 sec	6.182
Blocks	1146	.870 sec	
Wakeups	1198	.832 sec	
Waits	53389	17.070 msec	294.894
Notifies	138978	7.172 msec	
Schedulings	1250	.797 sec	6.313
Pre-empts	44158	22.571 msec	223.020

Time	%Int	%Cum	Ave	%T	%CumT
0.0	70	70	.239	20	20
.5	14	84	.732	12	32
1.0	6	90	1.294	9	40
1.5	5	95	1.827	11	51
2.0	2	97	2.337	5	56
2.5	1	98	2.848	5	61
3.0	0	99	3.432	2	63
3.5	1	99	3.914	3	66
4.0	0	99	4.491	1	67
4.5	0	99	4.807	1	68
5.0	0	100	5.461	2	70
5.5	0	100	5.923	1	71
6.0	0	100	6.291	0	71
6.5	0	100	6.816	0	71
7.0	0	100	7.698	1	72
7.5	0	100	7.864	28	100

DEPTH	%PF	TBPF	%GTW	TBS	%CPU
1	31.2	16.4	27.3	12.3	35.1
2	26.9	15.1	26.4	10.1	27.9
3	20.8	13.4	21.8	8.4	19.2
4	14.0	12.2	15.3	7.3	11.8
5	7.2	12.7	8.6	6.9	6.3
6	2.9	13.5	3.5	7.1	2.7
7	.5	0.0	.5	0.0	.5

r 1136 2.591 27+59

and

Multics 14.12, load 42.0/41.0; 41 users

r 1137 .259 7+13

fsm -all

Total metering time 0:19:06

Deactivations	1592
Asst grace	0:00:54
Used ASTs	429
Free ASTs	0
Held ASTs	193
Seg Faults	2168

	#	ATB
Needs	87441	13.110 msec.
Steps	317753	3.608 msec.
Ceiling	59	.324 min.
Lars	1688	.679 sec.
Skip wired	7344	156.089 msec.
Skip used	194412	5.896 msec.
Skip mod	24865	46.102 msec.
Skip os	3691	310.571 msec.

165 pages, 27 wired.

Average steps 3.634

	DRUM	DSU270	DSU170
Left	1004	12446	7833
Reads	78181	7314	936
ATB	14.662	156.729	1224.697
Writes	44734	3725	245
ATB	25.625	307.736	4678.842
ATB I/O	9.326	103.842	970.632
% Cocty	22	50	11
Ave Latency	23.041	73.623	68.903
N Errors	0	0	0
F Errors	0	0	0

r 1138 1.628 22+53

ttn -all

Total metering time 0:20:20

	%	AVE
Page Faults	10.99	1946.482
Drum interrupts	5.56	1110.790
Getwork	10.75	996.843
Seg Faults	2.95	15885.158
Interrupts	6.09	3387.930
Gate faults	3.64	3670.000
MP Idle	14.01	
Loading idle	1.01	
NMP Idle	0.00	
Zero idle	0.00	
Other	44.99	

hmu

Multics 14.12, load 41.0/41.0; 40 users

r 1139 .316 6+14

>udd>m>w>o>ppmt -all

Total metering time 0:20:51

Working-set factor	.50	
Working-set addend	0	
Min-eligible	2	
Max-eligible	6	
% bad pre-paging	34.19	←
Drum faults/pre-paging	1.54	
% drum priority moves	16.89	
% misses	4.87	
Ave post size	72.02	
Ave purge size	17.13	
% purged	23.79	
Ave pre size	27.36	
Ave pre-pagings	13.78	
% pre-paged	50.35	
Thrashing percentage	15.70	←
Ave post in core	43.03	
Ave working-set size	24.94	
Ave used in quantum	62.69	
Pre-page time	20.34	
Post-purge time	27.33	
Calls	1509	

r 1139 1.169 7+34

>udd>m>jhs>cf

```

cpu b 5
gioc a 2 0 7 11 13
mem c 200 on
mem d 200 on
mem e 200 off
clock b 1 25 est 5
drum 0 7700 1 4 5 6
d270 0 60650 a 37 12 121314151605 6071011
d170 0 105340 a 27 10 102030405 607
part mult 0 7700 0 57650 0 105340 0 0
part salv 0 0 57650 1000 0 0 0 0
int 27 30 31 32 37
sst 50
schd 400000 20 20 100
opds 11 1000.
ttvt 4 144
tty a 60 3 1200.
tty a 70 3 1200.
tty a 100 32. 133.
tty a 200 32. 133.
tty a 300 24. 150.
intk 77 mult

```

} 1 CPU

} 256 K core

r 1141 1.426 2+54

hmu

Multics 14.12, load 43.0/41.0; 42 users

r 1141 .345 8+30

>uid>m>w>o>q

avg = 18, elapsed time = 0 sec, 17 active last 15 sec.

flags	tu	dtu	te	ts	ti	tssc	event	d	ws	process
NLEI	35	36	928	0	0	-.001	0 0	0 0	10	Sekino
NLEI	68	69	352	0	0	.050	0 0	0 0	47	Bos
LEI	132	132	237	0	0	.133	0 0	0 0	54	Jordan
NLEI	62	63	266	0	0	.308	0 0	0 0	7	Spier
LEI	645	645	225	0	0	.475	0 0	0 0	19	not found
W	30	30	0	0	0	.077	0 0	0 0	30	MSmith
	76	77	29	4000	2000	3.152	0 0	0 0	46	Harman
W	79	78	77	0	2001	10.087	0 0	0 0	91	Mills
W	180	181	52	0	2004	76.915	0 0	0 0	60	Install
W	122	123	92	0	2014	81.815	0 0	0 0	91	Webber
	164	164	55	0	2025	24.429	0 0	0 0	88	EFranklin
	374	374	43	0	2043	22.941	0 0	0 0	79	IO
	68	68	71	0	2090	109.087	0 0	0 0	82	Godsell
	25	25	59	0	2193	35.495	0 0	0 0	88	PDP8
W	2	3	45	0	2364	20.534	0 0	0 0	41	Garman
W	3	3	49	0	3243	41.942	0 0	0 0	60	JAndrews
W	144	144	32	2000	6002	303.358	0 0	0 0	69	Taylor
W	39	40	49	0	6166	2.019	0 0	0 0	78	Strnad
	188	189	50	6031	8000	704.394	0 0	0 0	82	Backup
W	96	97	36	0	8000	.12836594e+04	0 0	0 0	55	Translator
	59	59	65	0	8000	712.428	0 0	0 0	50	VanVleck

r 1143 3.626 35+187

rzd scs 200

200 400000000000

r 1144 1.634 9+140

ppm -all

Pre-paging mode is ON.

r 1144 .469 7+32

hmu

Multics 14.12, load 42.0/41.0; 41 users

r 1144 .326 8+21