TO: MTB Distribution

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DATE: June 30, 1975

SUBJECT: Multics Performance Test Results as of System 25.7

Attached is a summary of the results from the performance tests done between March 13, 1975 and June 12, 1975. As you can see, we have slipped in all categories except for virtual CPU time and memory units. It is felt that the reasons for this slippage are due to (at least in part) an accidental change in the paging algorithm made in system 25.5. A fix to revert this change was installed in system 25.8a and a performance test to evaluate the results should be made this week.

Current Status (System 25.7)

	goal	25.7 values	% to goal
Elapsed Time:	65.2 min	75.8 min	80.1%
Virtual CPU:	2318 sec	2317 sec	100.1%
Total CPU:	3717 sec	3856 sec	95.4%
Page Faults:	362855	509377	50.6%
Memory Units:	25065	36152	45.9%

Related MTB's:

MTB-174 Multics Performance Test Results
MTB-146 Backup Performance Gains
MTB-132 Multics Performance Test Results
MTB-126 Revision of Multics Performance Tests

Metering Comparisons for 25.2, 25.3, 25.3a, 25.4, 25.5, 25.6, 25.7

System:	25.2	25.3	25.3a	25.4	25.5	25.5	25.6x	25.6	25.7
Date:	03/13/75	03/17/75	03/27/75	04/14/75	04/24/75	05/05/75	05/19/75	06/02/75	06/12/75
Script:	script2	script2	script2	script2	script2	script2	script2	script2	script2
Write-through status:	none	none	none	none	none	none	none	none	none
Device Checking:	1	1	1	1	1	1	1	1	1
SYST:	2	2	2	2	2	2	2	2	2
CPU:	A	A	A	A	A	A	A	A	A
Cache	on	on	on	on	on	on	on	on	on
Memories:	A,B	A,B	A,B	A,B	A,B	A,B	A,B	A,B	A,B
External Interface:	off	off	off	off	off	off	off	off	off
Paging Device Size:	2048K	2048K	2048K	2048K	2048K	2048K	2048K	2048K	2048K
Disk Channels:	2,8	2,8	2,8	2,8	2,8	2,8	2,8	2,8	2,8
Elapsed Time:	68.0 min	67.7 min	69.7 min	67.8 min	69.1 min	69.2 min	69.4 min	70.5 min	75.8 min
Costs (shift 1):	$936.12	$948.14	$950.79	$941.82	$873.89	$869.15	$862.34	$878.06	$892.13
Costs (shift 2):	$772.04	$782.10	$784.27	$776.85	$720.21	$716.25	$710.59	$723.67	$735.39
Costs (shift 3):	$405.31	$410.70	$411.84	$407.92	$377.69	$375.56	$372.56	$379.52	$385.77
CPU, total:	3609 sec	3599 sec	3647 sec	3582 sec	3576 sec	3605 sec	3570 sec	3604 sec	3856 sec
CPU, virtual:	2321 sec	2310 sec	2318 sec	2303 sec	2312 sec	2316 sec	2311 sec	2316 sec	2317 sec
CPU, good (1):	2236 sec	2232 sec	2228 sec	2212 sec	2402 sec	2391 sec	2400 sec	2409 sec	2418 sec
Memory Units:	38576	39307	39409	37994	35166	34881	34532	35376	36152
Page Faults:	461868	466495	477252	464546	481340	488808	480286	488090	509377
ttm meters:									
Page Faults:	27.96%	28.33%	28.20%	27.94%	21.55%	21.74%	21.46%	21.62%	25.71%
Getwork:	2.59%	2.62%	2.63%	2.61%	2.85%	2.92%	2.83%	2.84%	2.75%
Seg Faults:	2.54%	2.57%	2.55%	2.44%	2.38%	2.44%	2.39%	2.40%	2.32%
Bound Faults:	0.45%	0.43%	0.43%	0.44%	0.38%	0.38%	0.38%	0.37%	0.34%
Interrupts:	3.64%	3.62%	3.83%	3.66%	4.53%	4.83%	4.60%	4.67%	4.58%
Idle, zero:	0.38%	0.21%	0.17%	0.46%	0.12%	0.07%	0.15%	0.01%	0.11%
Idle, MP:	7.15%	6.83%	8.47%	7.67%	8.88%	8.71%	9.23%	9.77%	9.06%
Idle, NMP:	0.07%	0.16%	0.03%	0.06%	0.07%	0.20%	0.13%	0.14%	0.09%
Idle, Loading:	0.43%	0.30%	0.45%	0.36%	1.27%	1.14%	1.21%	1.23%	1.91%
Idle, total:	8.03%	7.50%	9.12%	8.55%	10.34%	10.12%	10.72%	11.15%	11.17%
Other (good):	54.80%	54.94%	53.24%	54.37%	57.98%	57.58%	57.62%	56.96%	53.14%
dvm meters:									
Bulk Reads:	464995	473119	482994	467326	450433	455544	451220	458505	482707
Bulk Writes:	238646	244409	250589	242847	219789	222039	219148	222833	233370
Bulk ATB I/O:	5.802	5.668	5.710	5.732	6.188	6.134	6.221	6.215	6.359
Bulk Avg. Page Wait:	0.549	0.550	0.552	0.553	0.000	0.000	0.000	0.000	0.000
D191 Reads:	42397	43483	48804	44870	58738	60993	59034	61229	60854
D191 Writes:	39749	39828	44189	40744	60456	62879	60397	62495	62932
D191 ATB I/O:	49.701	48.821	45.048	47.553	34.796	33.555	34.920	34.226	36.789
D191 Avg. Page Wait:	40.331	41.173	42.190	42.625	42.766	42.296	45.814	43.084	45.474

Notes:

(1) Based on Elapsed Time * percentage good (ttm meters)

(2) Note that runs made after 02/15/75 were done with new scheduling parameters:
wsf=.7; ttmax=4; ocore=.25; steh=1; tforce=1; atws=on; post_purge=on; telast=2