

MPL-23

TO: Multics Performance Log

FROM: A. Sekino

SUBJECT: Results of Daily MULTICS Performance Measurements  
(Period: July 14 - July 18)

DATE July 25, 1969

The daily MULTICS performance measurements was started on July 14, 1969. It consists of running a standard script, MFTN3, on (usually fully loaded) MULTICS with other normal users using a PDP-8 user simulator and analyzing the observed performance. The results of the performance analysis of the period, July 14 - July 18, is given below.

time unit: second  
Average per interaction

Date	Run #	# of users	system	Average CPU time	Average # of P. F.	Total Real Time	Notes
7/14	MPM01	16	3.0.14	1.157	62	2730	
7/15	MPM02	16	3.0.14	1.169	65	2850	
7/16	MPM03	16	3.0.14	1.219	67	2970	
7/17	MPM04	15	3.0.14	1.086	66	3150	*
7/18	MPM05	15	3.1.0	1.325	85	3390-α	*
7/14 -7/16	Average*	16	3.0.14	1.181	64	2850	

For further details, refer to the following pages where more detailed results of each run are given.

---

\* MPM04 and MPM05 were done in a rather special situation, so that these are not considered in averaging statistics.

MPM01  
#users = 16

7/14/69

MFTN3

3.0.14

-- MULTICS PERFORMANCE ANALYSIS --

COMMAND	TIME	CPU TIME	NO. OF P.F.
login	1627	10.314	371
edm	1636	9.909	625
fortran	1639	10.077	456
edm	1643	4.177	263
fortran	1645	5.829	240
rename	1646	2.046	105
print	1646	1.418	81
a_prime\$prime	1648	3.533	168
list	1649	2.424	121
setacl	1649	2.699	135
remove	1650	1.944	106
edm	1659	7.691	545
fortran	1701	5.739	239
edm	1706	4.347	294
fortran	1708	5.667	238
rename	1709	1.381	64
print	1709	1.110	75
b_prime\$prime	1711	2.462	136
list	1711	1.118	65
setacl	1712	1.429	90
remove	1713	1.362	74
logout			

-- SUMMARY --

TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO. OF P. F.	NO. OF INTER- ACTIONS	AVERAGE CPU TIME	AVERAGE NO. OF P. F.
76,362	2730	4120	66	1.157	62

## -- MULTICS PERFORMANCE ANALYSIS --

COMMAND	TIME	CPU TIME	NO. OF P.F.
login	1623	10.312	368
edm	1632	8.822	542
fortran	1636	10.252	456
edm	1639	3.814	255
fortran	1641	5.667	246
rename	1641	1.991	94
print	1642	1.616	120
a-prime\$prime	1644	3.816	211
list	1644	2.464	130
setacl	1647	3.803	234
remove	1648	2.276	141
edm	1657	6.930	493
fortran	1659	6.030	286
edm	1703	4.194	264
fortran	1705	6.247	292
rename	1706	1.406	59
print	1707	1.035	67
b-prime\$prime	1708	2.170	106
list	1709	1.582	104
setacl	1710	1.565	109
remove	1711	1.502	96
Logout			

## -- SUMMARY --

TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO. OF P. F.	NO. OF INTER- ACTIONS	AVERAGE CPU TIME	AVERAGE NO. OF P. F.
77.182	2850	4305	66	1.169	65

## -- MULTICS PERFORMANCE ANALYSIS --

COMMAND	TIME	CPU TIME	NO. OF P.F.
login	1540	11.134	425
edm	1549	9.859	674
fortran	1552	9.156	369
edm	1556	3.910	277
fortran	1558	6.241	291
rename	1600	3.853	138
print	1601	1.454	101
a-prime\$prime	1602	3.596	187
list	1603	2.426	131
setacl	1604	3.282	190
remove	1605	2.038	109
edm	1614	7.943	564
fortran	1617	6.613	328
edm	1622	4.910	333
fortran	1625	6.177	260
rename	1625	1.365	68
print	1626	1.212	65
b-prime\$prime	1627	2.391	128
list	1628	1.278	69
setacl	1629	1.380	90
remove	1630	1.389	74
logout			

## -- SUMMARY --

TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO. OF P. F.	NO. OF INTER- ACTIONS	AVERAGE CPU TIME	AVERAGE NO. OF P. F.
80,473	2970	4446	66	1.219	67

(Notes)

The system was especially slow today.

## -- MULTICS PERFORMANCE ANALYSIS --

COMMAND	TIME	CPU TIME	NO. OF P.F.
login	1647	10.290	356
edm	1700	8.551	596
fortran	1702	8.294	348
edm	1707	3.962	299
fortran	1709	5.953	316
rename	1711	2.579	168
print	1712	1.436	104
a-prime\$prime	1713	3.562	193
list	1714	1.847	89
setacl	1716	3.483	223
remove	1717	1.730	104
edm	1726	6.904	560
fortran	1728	5.486	279
edm	1732	3.479	255
fortran	1735	6.118	308
rename	1735	1.262	63
print	1736	.994	82
b-prime\$prime	1737	2.268	132
list	1738	1.056	73
setacl	1739	1.463	119
remove	1740	1.310	73
logout			

## -- SUMMARY --

TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO. OF P. F.	NO. OF INTER- ACTIONS	AVERAGE CPU TIME	AVERAGE NO. OF P. F.
71.737	3150	4384	66	1.086	66

(Notes)

Special certifier script (one script) was run simultaneously by R. Feiertag.

MPM05  
#users = 15

7/18/69

MFTN3

3.1.0

## -- MULTICS PERFORMANCE ANALYSIS --

COMMAND	TIME	CPU TIME	NO. OF P.F.
login	1712	12.156	548
edm	1721	8.577	625
fortran	1724	11.779	618
edm	1729	4.907	380
cpu stop ⇒ fortran	1740	9.520	605
rename	1741	2.529	166
print	1742	1.390	95
a_prime\$prime	1743	3.957	234
list	1745	3.207	214
setacl	1746	4.338	293
remove	1747	2.502	169
edm	1756	6.301	500
fortran	1758	6.943	396
edm	1802	4.290	313
fortran	1804	6.587	341
rename	1805	1.657	99
print	1805	1.447	104
b_prime\$prime	1807	2.432	133
list	1808	1.615	117
setacl	1808	1.667	124
remove	1809	1.830	123
logout			

## -- SUMMARY --

TOTAL CPU TIME	TOTAL REAL TIME	TOTAL NO. OF P. F.	NO. OF INTER- ACTIONS	AVERAGE CPU TIME	AVERAGE NO. OF P. F.
87.475	3390	5649	66	1.325	85

-d  
~ stop time

(Notes)

- (1) The CPU was stopped for about 9 minutes during the execution of "fortran"
- (2) 45 K of core was accidentally wired.