July 11, 1969
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The scripts used in a PDP-8 performance measurement

The script, MFTN, describes a behavior of a typical MULTICS console user debugging a Fortran program to compute the prime numbers. This script will be used in a daily MULTICS performance measurement to be started now. The CTSS script, CMAD, which has a one-to-one correspondence in structure wherever possible is also created (The MAD program is debugged). Both scripts have the following features:

(1) A typical user debugging a program to compute the prime numbers is simulated. The debugging process is repeated twice in the script.

(2) All the think times are 30 seconds per an interaction.

(3) The script includes 66 interactions in all.

(4) Therefore, a total think time in the script is 1980 (= 30 × 66) seconds.

(5) The script includes about 20 system commands.

The Zerox copy of the script is attached below. Note that the process described below is repeated twice in the script.

MULTICS script MFTN3

```
:T
(30)
edm prime.fortran
:V
3
?Input.?
:T
(30)
 read(5,70) l
(30)
70 format(i3)
(30)
 m = 1
(30)
 do 10 i = 3,100000
(30)
 k = i-1
(30)
 do 20 j = 2,k
(30)
 if(mod(i,j)) 20,10,20
(30)
 continue
(30)
 m = m+1
(30)
 if(m-l) 10,40,40
(30)
10 continue
(30)
40 write(6,60) m,i
(30)
60 format(7h Prime ,i4,3h is,i6)
(30)
 stop
(30)
.
:V
1
?Edit.?
:T
(30)
s
:V
2
?r ?
1
?
:T
(30)
fortran prime
:V
20
?r ?
1
?
```

```
:T
(30)
edm prime.fortran
:V
2
?Edit.?
:T
(30)
n ?
:V
1
?continue?
:T
(30)
c / c/20 c/
:V
1
?ontinue?
:T
(30)
b
:V
1
?Input.?
:T
(30)
 end
(30)
.
:V
1
?Edit.?
:T
(30)
s
:V
2
?r ?
1
?
:T
(30)
fortran prime
:V
2
?r ?
1
?
:T
(30)
rename prime.list a_prime.list;rename prime.fortran a_prime.fortran;rename prime a_prime
:V
2
?r ?
1
?
```

```
:T
(30)
print a_prime.fortran
:V
3
?a_prime.fortran?
16
?end?
2
?r ?
1
?
:T
(30)
a_prime$prime
(30)
090
:V
1
?Prime   90 is   463?
1
?r ?
1
?
:T
(30)
list a_prime.**
:V
13
?r ?
1
?
:T
(30)
setacl a_prime rewa
:V
2
?r ?
1
?
:T
(30)
remove a_prime.list;remove a_prime.fortran;remove a_prime
:V
2
?r ?
1
?
```

CTSS script CMAD

```
:T
30
edl prime mad
:V
3
?Input?
:T
30
    n  o rmal mode is integer
30
    r  e ad format input,1
30
    v  e ctor values input=$i3*$
30
    m  = 1
30
    t  h rough a,for i=3,1,i.g.100000
30
    k  = i-1
30
    t  h rough b,for j=2,1,j.g.k
30
    w  h enever i.e.(i/j)*j,transfer to a
30
    c  o ntinue
30
    m  = m+1
30
    w  h enever m.ge.1,transfer to c
30
a    c  o ntinue
30
c    p  r int format fmt,m,i
30
    v  e ctor values fmt=$7h prime ,i4,3h is,i6*$
30

:V
1
?Elit?
:T
30
file
:V
2
?R ?
1
?
:T
30
mad prime
:V
10
?R ?
1
?
```

```
:T
(30)
edl prime mad
:V
2
?Edit?
:T
(30)
n 9
(30)
p
:V
1
?
:T
(30)
c /    c  /b    c  /
:V
1
?ONTINUE?
:T
(30)
b
:V
1
?Input?
:T
(30)
    e   n  d of program
(30)

:V
1
?Edit?
:T
(30)
file
:V
2
?R ?
1
?
:T
(30)
mad prime
:V
5
?R ?
1
?
:T
(30)
rename prime * a_prime *
:V
2
?R ?
1
?
```

```
:T
(30)
print a_prime mad
:V
3
?PRIME?
15
?END?
2
?R ?
1
?
:T
(30)
loadgo a_prime
:V
2
?EXECUTION.?
:T
(30)
90
:V
1
?PRIME   90 IS   463?
2
?R ?
1
?
:T
(30)
listf a_prime *
:V
10
?R ?
1
?
:T
(30)
delete a_prime *
:V
2
?R ?
1
?
```

7/21/69

SA: page fault attributable to locking in daily certification scripts runs. (Second versus first invocation of command)

	7/11	7/14	7/15	7/16	7/17	7/18
edm	80	99	49	110	36	~~120~~ 125
ftu	217	121	170	41	69	222
rename	41	48	35	70	125	67
print	6	15	53	36	22	-9
aprime	32	61	105	59	61	101
list	56	57	24	62	~~13~~ 16	97
setacl	45	131	125	100	104	169
remove	32	45	45	35	31	46

3.0.14 3.0.15