TO: Distribution

FROM: J.H. Saltzer, D. . Stone

DATE: November 12, 1968

SUBJ: Multics certification run records

The installation of a new Multics Standard System is accompanied by a
test
~~rest~~ in which that system is driven by a system certification program.
This test is intended to insure that a new system has ~~not~~ wo gross per-
formance defects or newly introduced bugs as a result of modifications.
Since no test planned in advance will reveal all possible bugs in the
system, the certification program must be continually improved as bug
discovery suggests more comprehensive tests. On the other hand, im-
provements to the certification program must be carefully controlled so
that the performance comparison aspect of certifier———— can be achieved.
Thus the following set of rules:

1.   When a new system is installed, the current standard certifier
     is used to test it, and a permanent record is made of the results
     of the successful test run.

2.   When the standard certifier is to be changed, the new version is
     used to test the current standard system, and a permanent record
     made of the results of the successful test run.

Thus one is never permitted to change both the standard system and the
certifier at one time. (The rare case where the change to the system
forces a change to the certifier requires careful judgement to guarantee
future usability of previous certifier results.)

Certifier runs are identified by a two-part label such as "13.7", where the number before the point is the particular revision of the certifier, and the number after, the number of simultaneous processes executed by the certifier.

At times, temporary experimental changes may be made to the certifier, for example, to obtain some performance information when a particular command is used heavily. Such special cergifiers are given a revision name starting with the letter "X" (as in X13.4) so that permenant records of such runs will not be confushed with more routine runs.

One
~~Our~~ special series of certifier versions, designed explicitly to measure performance rather than trap new bugs, is identified with the letter "P" (as in P1.64).