

1/13/68

DRAFT

TO: F. J. Corbató

FROM: J. H. Saltzer

SUBJ: Who underwrites initial Multics usage, GE or MAC. . .

GE has indicated a constructive response to the complaint that underwriting of initial Multics usage may be very expensive: They have offered to underwrite completely and sell time by the hour to individual users. We may be able to propose a constructive alternative along the following lines:

1. Project MAC retails Multics service on the "B" machine to the M.I.T. campus and other communities, as it decides, and at rates it sets. It sets rates to recover its costs, including rental of the "B" machine from GE as detailed below.
2. Time spent in the Multics "idle" process is carefully accounted for, and added up each month.
3. Time spent in which the "B" machine is down (Multics unrunnable) is carefully accounted for, and added up each month.
4. The times accumulated in 2) and 3) are added up and then subtracted from the total number of hours in the month. The 645 rental price is prorated down accordingly.
5. ^{The extent of prorating is limited:} MAC guarantees to purchase at least (say) 60% of the Multics _{runnable} hours during the month.

Note that this plan preserves the correct set of incentives:

- . MAC is encouraged to get accurate accounting going soon, and bring up reliability so that accounting ^{information} is not lost.
- . MAC is encouraged to sell its machine, at least to the 60%

point.

- . GE is encouraged to keep the machine in Multics runnable form.
- . MAC is encouraged to improve system performance as much as possible, to ~~reduce~~ increase idle time.
- . MAC is encouraged to run Multics as much as possible, both to sell it and to add up idle time if it is not being used.

This plan leaves one problem, which could be solved by MAC subsidy: should charges to the M.I.T. community be based on ^{dividing} actual rental costs as determined above, ~~divided~~ ^{divided} among actual users; or should ~~those rental costs be divided by~~ ^{those rental costs be divided by} potential users if the system performance were nearer its expected limit? The latter course would allow more stable charges and attract more users, but would mean that MAC would have to make up the difference as long as performance is not at the target.

To be negotiated: Whether Test sessions checking new systems are classified as "Multics runnable" time or not.