June 4, 1970

MEMORANDUM

TO: J. M. Grochow

FROM: J. H. Saltzer

SUBJECT: Multics AED Proposal of SofTech

In reading over the AED proposal I observed three things worth careful consideration:

1. The proposal does not make clear whether or not it includes AED-Jr. and the collection of library programs (e.g., RWORD) which CTSS AED users have grown to expect as part of the AED environment. A precise list of environmental pieces should be drawn up to allow more careful judgement of whether or not the result will be as useful as expected.

2. The proposed AED implementation will produce as output assembly language text rather than binary text. Since the current Multics assembler is very expensive, use of the proposed AED compiler may be hard to encourage. Even if the assembler is upgraded drastically, there is a question of whether or not an AED and assembler package can ever effectively compete with other compilers which go directly to machine language.

3. It would seem wise to try to develop some performance specifications for the compiler as part of the acceptance tests. Such specifications might attempt to indicate both the required speed of compilation and some measure of object code quality or speed. Perhaps these specifications could be framed in terms of the current PL/I or FORTRAN compilers. (Again, it should be noted that if the assembler is part of the AED compilation process, the cost of an AED compilation is almost surely higher than current PL/I.)

xc: R.C. Daley
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