INTERDEPARTMENTAL

MASSACHUSETTS INSTITUTE OF TECHNOLOGY *CAMBRIDGE, MASS. 02139*

from the office of Information Processing Services

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Subject: 1971 Multics Development Goals

I find it difficult to comment on the timeliness or necessity of the various targeted development goals without first understanding the overall reason for Multics development. There are clearly several possible:

1. To provide a system which meets the particular needs of the M. I. T. user community.

2. To provide a system which meets the general needs of some general user community.

3. To develop those areas which present interesting technical problems.

4. To develop those areas which make the system easier to operate and maintain and administrate.

There are probably several others. I will attempt to address myself from the standpoint of one concerned with the particular needs of the M. I. T. user community. I will leave it to others to trade off these goals with their own.

I will avoid commenting on first quarter tasks since they should be nearly complete, other than to mention those which I feel should be dropped to "back burner" when they are not completed on schedule.

Hardcore Tasks: It seems that here is where we can do most to satisfy the users' crying need for more capacity. Such tasks as page multilevel, rebinding the system, and crash recovery speedup seem to be very important. Another need of users is cheaper secondary storage, which clearly involves file multilevel and tape management. Other tasks such as user setable search rules, new interprocess communication and a new locking facility appeal to only a subsegment of the user population and should be given second priority.

Non-Hardcore Tasks: Again applying the principle of what the users appear to want most, I would push such tasks as limit stops for CPU usage and improved accounting, off-line file storage, a new text editor, an absentee facility, and file manager for large files (in approximately that order). Allowing user rings, improved graphics facilities, and extended absentee facilities again appeal to a smaller class of the user

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population. (It should be stated again that I fully realize the necessity of on-line T & D's, system control improvements, etc. for meeting the goals of making the system easier to manage. However, that is not the viewpoint I am taking in this document.)

Languages: There is little to say here other than the fact that we would stand to gain a large number of users if we provided an adequate Fortran facility as well as one in PL/1.

Documentation: So much has been said about our documentation that I only re-emphasize a few points. Users find the MPM extremely difficult to use except as a reference manual. There is, however, very little else in the way of user documentation. The System Programmer's Supplement is necessary for the "publication of Multics" but not for the vast majority of users. More attention should be paid to keeping the MPM up to date and perhaps available on-line. Info files on-line should be better organized and stored in such a way so that a user could ask for off-line printing of any changes since the date he last checked them. More consultation should be carried out with users of the system to find out what documentation they would appreciate. (Very often an IPC memorandum of five or six pages will satisfy the need.)

The Multics development task document attempts to be all things to all people. I think it important that we decide our priorities in terms of the overall goals I stated at the beginning of this memorandum and then decide which tasks take priority. Making these goals explicit will go a long way towards removing the uncertainties of the various staffs as to their roles and the roles of others in the provision of the service and in the development of the system.

(Jerrold M. Grochow

JMG/p

cc: Messrs. Scott, Burner, Libby, McManus, Steinberg, Corbató, Saltzer, Clingen