MONTHLY TASK REPORT

5/25/66

Abstract - Meeting traditional Computation Center Requirements within
Multics.

Traditional Computational requirements will have to be served by
Multics. Although these requirements are easily met using the routine
Multics environment, they are often at the heart of contemporary operations.
As a consequence it is important to prepare background documents outlining
explicit strategies and solutions as a guide for implementation. Particular
requirements of interest are as follows:

1. 1401- like operations: i.e. card-to-tape, etc. (Sometimes called
   "spooling".) Solution: special commands for a "media conversion"
   operator.

2. Vast quantities of data in the from of punched cards (e.g. census
   data). Solution: use "media conversion" to convert to magnetic tape.

3. Multi-reel magnetic tape file. Solution: This is solved within the
   Multics I/O system where there are defined header conventions and
   standard tape formats.

4. Magnetic tapes with non-Multics formats. Solution: one must write
   (or get from the library) a special format conversion subroutine for
   use with the I/O stream attached to the tape.

5. Magnetic tapes which have unknown formats or are poorly-recorded.
   Solution: the user must use an I/O stream attached to a special DIM
   subroutine. This special DIM allows the primitive operation of the
   tape (e.g. back-space record, etc.)

6. 128 character key-punch operation. Solution: either the user does multiple-punching and/or uses the escape conventions appropriate for the device or the user defines special input conventions and writes a special editing subroutine for use with his input stream.

7. Special hardware equipment used on-line. Solution: There will be a subroutine in the library to allow a standard software interface to the "customer-device adapter-DIM".

8. Batch-processing operation of GECOS concurrently with Multics operation. Solution: over-the-counter input decks are read into a "Batch-GECOS" file directory by the "Batch-GECOS" operator using a command written for the purpose. The Batch-GECOS monitor operates as an absentee-user job continually picking up jobs from its directory and sets up output by requesting normal Multics file output.

9. Batched input/output to the file system. Solution: there will be special commands for this purpose. Input will go into an "input" directory and "mail" will be deposited in the user's directory notifying him of the arrival. Input can be picked up by a validated user after he is logged-in by using particular commands. Other commands are available for requesting automatic output.

10. Dial-out service to Consoles. Solution: this service, pending better hardware facilities from the communications companies, will be restricted to supervisor activities. Dial-out service is under the control of the transactor.

11. Shared-Data base problems (e.g. IDS, airline reservation systems etc.)

Solution: Arbitrary directories and linkage schemes which are suitable for the information structure of the problem are superposed upon the basic Multics file system by means of special subroutines which are used for all sub-system reading and writing. Particular data inter-locking conventions must be established and agreed upon by all users of shared files.