

Preliminary Draft

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To: Douwe Yntema

From: David Armor  
John Klensin  
Robert Travis

Re: Report on the feasibility and cost of implementing the revised Data-Text system on Multics.

Our group met on November 26 with Jerry Saltzer, who served as an informal advisor regarding Multics. The scope of our discussion was confined to implementing the revised Data-Text version on Multics as an experimental "interactive batch" system as outlined in the Sigma 7 proposal submitted by Dave Armor to the Cambridge Project. Additional modifications would require further discussion and might alter our feasibility and cost evaluations.

Feasibility

The Multics system supports standard ASA Fortran IV, which is the major language used for Data-Text. There is no anticipated difficulty with the small number of system- and machine-dependent routines in Data-Text; they can be hand-coded for Multics. There seem to be no other system considerations (overlay procedures, data formats, etc.) would prevent an implementation of the new Data-Text on Multics as a straight batch system.

There do seem to be several technical and practical problems regarding an "interactive batch" system. In order to provide what is conceived to be adequate service to Data-Text users, it was felt that the following system features might be required on Multics:

- 1) A capability to read "foreign" tapes (blocked BCD, etc.)
- 2) Foreground-initiated background mode ("absentee" jobs)
- 3) Ability to attach tapes during "absentee" jobs
- 4) An interface to service Model 33 teletypes

Some of these features are planned for Multics already, and none of them would be too difficult or costly to implement.

It was also agreed that for the potential Harvard-based user of Data-Text on Multics, there might be a number of important administrative problems which would deserve careful consideration. Among them were:

- 1) Possible costs of using Data-Text on Multics compared to Harvard Sigma 7 costs.

- 2) Creation of a messenger service for transporting tapes, bulk print-outs, etc.
- 3) The more complex political problem of Harvard users buying time on MIT computers, given the present financial state of the Harvard Computing Center.

Our over-all conclusions were that, while there might be some administrative problems, there do not seem to be any major technical obstacles to making Data-Text operational on Multics either as a straight "batch" system or as an "interactive batch" system.

Costs

The group agreed that the man-hour estimates provided in the original Sigma 7 Data-Text proposal would suffice for a Multics implementation. The following is a summary of those estimates for the straight batch and interactive batch versions.

Straight batch

(machine-dependent routines; file-system interface).....11 man-weeks

Interactive batch

(restart, console printing, background-initiation, etc.)..32 man-weeks

TOTAL....43 man-weeks

Respectfully submitted,



David J. Armor