



E. Theses in preparation:

- 
1. Schell, Roger W. "Dynamic Reconfiguration of a Computer Utility," Sc.D., February, 1971 (est.)
 2. Frankston, R., "A Limited Service System on Multics," S.B., June, 1970.

F. Papers in preparation:

- 
1. Ussanna, J. F., and Saltzer, J. H., "Human and Technical Factors in connecting terminals to a computer system," submitted to 1970 FJCC.

G. Potential papers for which work is essentially complete:

1. Traffic controller organization and block/wakeup primitives.
2. Multi-processor locking strategies; Bensoussan's deadlock avoidance algorithm.
- ~~3. Full ring protection hardware with automatic gate crossing.~~
4. Observations on the minimum mechanism required to support a process.
5. EPL: the subset and the compiler.
- ~~6. Techniques of achieving I/O independence. (I/O switch, etc.)~~
7. Techniques for communication between ASCII and EBCDIC computers.
8. Magnetic tape reliability techniques.
9. User control and administrative facilities of a computer utility.
10. File system reliability measures in Multics.
11. Dynamic linking and binding in Multics.
12. Hash code algorithms in a virtual memory environment.
13. Desirable aspects of a console command language.
14. Assembler organization for pure procedure, stack environment.

15. Interactive editor systems in Multics.
 16. Segment management and library search strategies.
 - ~~17. A simplified model of Multics. (Clies)~~
 18. Large system development tools and techniques.
 19. Library, consolidation, and system maintenance pattern for a large system using a large system.
 20. Summary of surveillance, privacy, and protection mechanisms in Multics.
 21. Management of information system development: the Multics experience.
 22. Research frontiers in information systems.
- H. Potential papers for which work still is in progress:
1. Interprocess communication, 1970/71/⁷² version.
 2. The CIMPL language for information system implementation.
 3. Long computations and absentee users in an interactive system.
 4. Multiprogramming, page selection, scheduling, and pre-paging algorithms in Multics, and their interactions.
 5. Multilevel and detachable storage in the virtual memory environment.
 6. Dynamic reconfiguration of the computer utility.
 7. Input/output buffering in information systems.
 8. Console concentration and multiplexing in the computer utility.
 9. Access control specification problems.

1/4/20

①

MPM bugs

1. Need to add to ms_ a spec on "How the shell ~~is~~ calls you".

~~2. Need 1 page on BASIC~~

~~3. D print - it has an abbreviation dp~~

~~4. get quota examples are unreadable.~~

~~what does "quid" mean?~~

~~what does "non-terminal" mean?~~

~~-4000?~~

~~5. list - check abbreviations format
histat, check all abbreviations in manual.~~

~~6. probe: call, error, return status from program in
reference data.~~

~~7. replace - segment can be deleted~~

8. has - \$ append branch x

4) rline (13) fixed line (12)

9. ~~kes - status~~ mission on all calls in this section
Entry: ~~kes - status~~

10. ipc -> Standard service system? (under ipc -)

11. ~~101 -> Standard service system?~~

12. ~~Can't we make pdir obsolete?~~
~~(use get-process-dir instead)~~

13. ~~Ditto wdir~~

14. Privileged procedures now have the names
hphcs- or phcs- in front of them.

15. ~~Logging in/out - needs new message format.~~

16. Ref data 1.5 / p3 add **CI** to verbatim list.

17. ~~Ref. data sec 2.1 p1 item 5 consultation~~

18. ~~Ref. data sec 2.3 any descriptors are wrong~~

0	14	15	16	17	18	25
data type						size

~~14. Ref. data 2.7 1. Symbols under have been changed.
2. Give usual names etc.~~

~~20. Sec 3.1 page 3 won't program? Sec 6.4
line from bottom~~

21. Sec 3.2 Update to cover object segments.

~~22. Sec. 3.6 Op code format is very confusing.~~

~~1. Should not label "Type 0", "Type 1". Should be
labeled "bit 22 off -- address relative to segment"
and "bit 22 on -- address relative to base register."~~

~~2. The bits should line up.~~

More MPM bugs

1/4/20

~~23. Section II.4.5 can be deleted - the language names
omit~~

~~24. Section I.2.8 2nd + 3rd paragraphs are
unrelated. (calendar clock title should be
inserted)~~

~~25. Section II.3.6 "Running Recompiled Protocols"
~~1st~~ paragraph may be deleted.~~

26. Section II.3.8 should be updated to suggest cu-
rather than us-

27. Section II.4.4 page 4 should not call us-

~~28. Ref. Data 2.3 page 2 refers to B0.7.03!~~

~~29. Ref. Data 2.3 page 4 ⁶ add~~

~~a. arglist equals 2 (01 8), sf value~~

~~b. arglist is zero (01 4), there is~~

~~"the values 4 and 8 indicate that the call was generated
by the PL/I or FORTRAN compilers."~~

~~c. delete "see B0.9.01"~~

30. Limited Service System portions should be so labelled.

31. Internal Debugger should be reorganized from current library list or with System Programmer's Supplement. (Many names here have been removed by now)

32. Internal Debugger: caller \rightarrow calls in line 5, p-1.

~~33. Obsolete functions: review - some have been deleted from system; others are more to be added.~~

34. Sec. 2.5, p. 4+5 Describe purge even not kill, not actual even + kill.

~~35. hcs - \$f) - search get - when POWER should be printed.~~

~~36. rousoff - all default is 65, not 60~~

~~37. hcs - \$ status - area allocation description is needed.~~

INTERDEPARTMENTAL

MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE, MASS. 02139

from the office of

October 5, 1970

To: F. J. Corbató
R. C. Daley
C. T. Clingen

From: J. H. Saltzer

Your comments are hereby requested on the enclosed items related to review and upgrading of the Multics Programmer's Manual prior to publication:

1. A view of the organization and purposes of the several revised parts.
2. A beginning of chapter two of the introduction. If you looked through the version of chapter two distributed last week with a revised table of contents, new material begins on page 5. Scripts to fill in figure spaces will be found at the end.