

9/30/68 DRAFT

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SUBJ: Multics Documentation Review

This note is intended to appraise where we stand and where we are heading with respect to external documentation, both written and potential, about Multics. The list is intended to be comprehensive, so please add suggestions for any potential publication not listed here. The list of subjects for which papers might be written ranges from the impossibly grandiose to the insignificantly trivial; the only criterion for inclusion is that the topic be one on which the Multics view has some original or unpublished aspect.

I. Books and Guides About Multics

Published:

1. "Multics System Programmers Manual" (Updateable)
2. "EPL User's Reference Manual" (GE)
3. "Multics Operating System" (GE)
4. "645 System Manual" (GE)
5. "EPLBSA User's Reference Handbook" (GE)
6. "Handbook of Operating Information" (GE)
7. "Initial Multics Console User's Manual" (GE)

In Preparation:

1. Organick: Guide for Subsystem Writers
2. FL/I Manual (GE)
3. Fortran IV Manual (GE)

Planned or Potential:

1. MSPM Snapshot in Book form
2. Multics User's Manual (Updateable)
3. Multics System Operator's Guide (Updateable)
4. Multics System Administrator's Guide (Updateable)
5. Multics Primer
6. Multics Condensed Guide (Updateable)
7. "GIOC Programmer's Reference Manual" (GE)
8. "645 Programmer's Reference Manual" (GE)

Published:

1. F.J. Corbato', V. Vyssotsky, "Introduction and Overview of the Multics System", 1965 FJCC.
2. E.L. Glaser, J.F. Couleur and G.A. Oliver, "System Design of a Computer for Time Sharing Applications", 1965 FJCC.
3. V.A. Vyssotksy, F.J. Corbató and R.M. Graham, "Structure of the Multics Supervisor", 1965 FJCC.
4. R.C. Daley, P.G. Neumann, "A General-Purpose File System for Secondary Storage", 1965 FJCC.
5. J.F. Ossanna, L.E. Mikus and S.D. Dunten, "Communications and Input/Output Switching in a Multiplex Computing System", 1965 FJCC.
6. E.E. David, Jr., R.M. Fano, "Some Thoughts About the Social Implications of Accessible Computing", 1965 FJCC.
7. R.M. Graham, "Protection in an Information Processing Utility", 1967 ACM Gatlinburg.
8. R.C. Daley, J.B. Dennis, "Virtual Memory, Processes, and Sharing in Multics", 1967 ACM Gatlinburg
9. F.J. Corbato', J.H. Saltzer, "Some Considerations of Supervisor Program Design for Multiplexed Computer Systems", 1968 IFIP.
10. J.H. Saltzer, "Multics System", 1966 lectures (in Japanese)

Deserving Wider Publication:

1. F.J. Corbató, "PL/I as a Tool for System Programming", M103.
2. F.J. Corbató, "A Paging Experiment with the Multics System"
3. F.J. Corbató, "Pitfalls in Large Systems".

In Preparation:

None

Potential:

1. Parallel processing primitives
2. Interprocess Communication, Process Wait and Notify
3. Locking strategy for multi-processors
4. Multics file system internal organization
5. Environment of a Process (or Procedure)
6. EPL subset and compiler
7. CIMPL language
8. Feedback to Users of EPL on cost of statements, etc.
9. I/O system organization
10. Considerations on programming for interactive terminals (line discipline, etc.)
(2741 RPQ's)
11. Canonical form for stored character strings
12. Escape conventions; erase and kill conventions
13. Use of ASCII in Multics (special character interpretation, etc.,
Communication with EBCDIC)
14. Multics standard tape format
15. System clock design
16. Binding (vs recompilation): What Can be Done
17. Multiprogramming Control Algorithm
18. Absentee user package

19. User control/listener/overseer
20. File system backup/multilevel strategy
21. What happens on a linkage fault
22. Hash code algorithm
23. Shell Language and Interpreter
24. EPLBSA (an assembler for a pure procedure, stack environment)
25. Interactive editor
26. Segment management, library search
27. First/second/third draft aspects of system design
28. Technical management aspects
29. Clics design
30. Bootstrapping via 7094 CTSS to build the system/System development tools
31. Performance improvement tools
32. Performance Measurement Tools
33. User simulator using PDP-8
34. PDP-8 x-ray probe
35. Segment library/consolidation/maintenance pattern for large systems
36. Summary of all surveillance/privacy/protection mechanisms in Multics
37. Observations on the Certification of Computer Systems
38. Edited Transcription of Lectures Given at ETL, Tokyo By Saltzer (1966).

MIT Theses Related to Multics

Completed:

1. J.H. Saltzer; "Traffic Control in a Multiplexed Computer System",
Sc.D., 1966 (MAC-TR-30).
2. R. Rappaport, "Implementing Multi-Process Primitives in a Multiplexed
Computer System", S.M., 1968.
3. H. Deitel "Absentee Computations in a Multiple-Access Computer
System", S.M., 1968.
4. H. Greenbaum, "A Simulator of Multiple Interactive Users to Drive a
Time-Shared Computer System", S.M., 1968.
5. J.Grochow, "The Graphic Display as an Aid in the Monitoring of a Time-
Shared Computer System", S.M., 1968.
6. E.I. Ancona, "A Compiler for MAD-Based Language on Multics", S.M., 1968.
7. D. Clark, "A Reduction Analysis System for Parsing PL/I", S.M., 1968.

In Progress:

1. M. Schroeder, "Classroom Model of an Information and Computing
Service", S.M., 1969 (est).
2. D. Walden, "A General Translator from an Intermediate Language to
a Machine Language", S.M., 1969 (est).