MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Project MAC

Artificial Intelligence Project
Memo 82

Memorandum MAC-M-269
July 1, 1965

To: Project MAC Participants

From: Peter Samson

Subject: MAC PDP-6 DECtape FILE STRUCTURE

*All numbers below are octal.

The MAC system programs, MACDMP, TECO, and MIDAS, assume a certain data structure on DECtapes which they handle. Each DECtape has 1100 blocks of 200 words, numbered 0 through 1077. Block 0 and blocks 1070 through 1077 are not used by the MAC system. Block 100 of each tape contains the File Directory: a 200-word table describing the current contents of blocks 1 through 1067. The data on the tape is organized into files, each file consisting of one or more blocks. Each file has a name and a mode: the name is composed of 2 six-character subnames, and the mode is a two-bit number. The File Directory has space for 27 files.

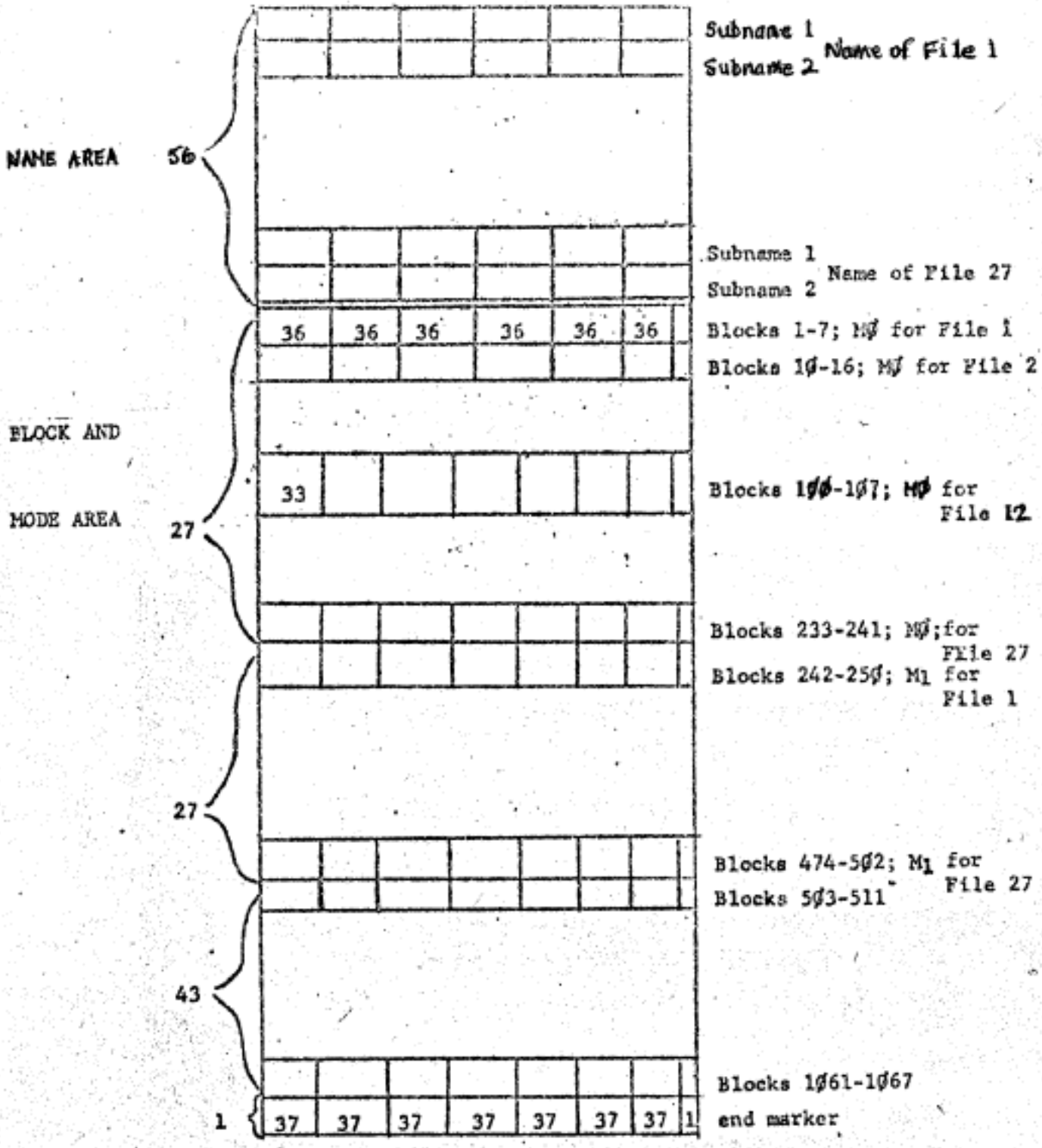
The subnames are stored as six sixbit characters, left-justified. Blanks fill out subnames. If either subname is not given, it is set to @. If one subname is given it is the second. For each usable block there is a 5-bit code in the block area telling its current use, as follows:

Ø	block is free
1	part of file 1
27	part of file 27
3Ø-32	unused codes
33	file directory block
34	unused code
35	unfiled output (TECO, MIDAS)
36	reserved block
37	end of block area

Marked on the sketch are the permanent contents of every file directory; the system tape directory has, in addition, 36 codes for blocks 75, 76, and 77.

$M_Ø$	M_1	MODE #	MODE CHARACTER	Name of Mode	Written by
Ø	Ø	Ø		ASCII	TECO (can be directed to mark as any mode)
Ø	1	1	!	DUMP	MACDMP
1	Ø	2	"	SBLK	MIDAS (absolute format)
1	1	3	#	RELOC	MIDAS (relocatable format)

The order of blocks within a file is from the beginning of the tape towards the end, i.e., in order of increasing block numbers. A file may have an extension, which has a unique file number and name. File number n would have an extension whose first subname is all blanks (binary Ø) and whose second subname is the binary number n. The order of blocks in the extension file is from the end of the tape back towards the beginning. It may in turn have an extension, which is in forward order, etc.


NAME AREA
56
Subname 1
Subname 2
Name of File 1
Subname 1
Subname 2
Name of File 27
BLOCK AND
MODE AREA
36 36 36 36 36 36
Blocks 1-7; MØ for File 1
Blocks 1Ø-16; MØ for File 2
27
33
Blocks 1ØØ-1Ø7; MØ for File 12
Blocks 233-241; MØ; for File 27
Blocks 242-25Ø; M1 for File 1
27
Blocks 474-5Ø2; M1 for File 27
Blocks 5Ø3-511
43
Blocks 1Ø61-1Ø67
1
37 37 37 37 37 37 37 1
end marker