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TO: Computation Center Staff

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Introduction:

The IBM Fortran Monitor Version 2 709/7090 has been modified by the Computation Center Staff. Various lower core locations are used by the monitor records for communication and storage. All registers in lower core now used by the MIT Fortran Monitor are defined in this document. They will be referred to by their system symbol.

Lower Core Locations:

DEC LOC	OCTAL LOC	NAME	
5	5	(CKRD)	Clock location
6	6	(CLOC)	ILC(addr.) when clock has gone off
7	7	(CTRP)	Clock trap location
reserved trap locations			
40 ⋮	50	(SKEL)	Skeleton program to enter a word into (SBUF)
60	74	(CLKL)	The instruction STL (CKIN) stored here.
61	75		The instruction TTR* 6 stored here.
62	76	(PMAD)	ILC stored here if manual PM
63	77	(TRPM)	TTR location of Manual PM
64	100	(SBUF)	Statistics Card Buffer
66	102	(PROB)	problem number in BCD
67	103	(TIMI)	Starting time of run in BCD
68	104	(PROG)	programmer number in BCD
69	134	(DATI)	The date in BCD
88	130	(PRCT)	Maximum programmer printed output
89	131	(PUCT)	Maximum programmer punched output

90	132	(ELCT)	Estimated programmer line count
91	133	(JBTM)	Estimated time of job
92	134	(CKIN)	Indicates whether clock has gone off
93	135	(FCNT)	Count of Fortran statements
94	136	(TYRN)	Type of run, code in address only
96	140	(FGBX)	Referred to indirectly thru location 73467_8
97	141	(LINECT)	Also referred to indirectly thru (LNCT), location 73470_8; line count
98	142	Datebx	
99	143	(HILO)	Highest and lowest core addresses used by program

The above names are in the FAP SYSTEM SYMBOL TABLE Version II FMS.

The program (SKEL) puts a word of statistics information (complete with code) into the statistics card buffer, (SBUF), first punching out an intermediate statistics card if the buffer is already full.

Calling Sequence:

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LDQ      STATWD
TSX      (SKEL),4
Return
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The routine (SKEL) destroys index register 1.

*N.B.   This reference in the System Symbol Table must not be used by any routine that is not in core concurrently with (IOP) i.e. the system Input-Output package.

STATISTICS CARD:

ALL OCTAL 7's		ALL OCTAL 7's	
Programmer No.		DATE	
Problem No.		INITIAL TIME	
	Wd. Ct.	Seg. No.	CHECKSUM

The sequence number starts at 1 and is updated for each additional statistic card of a single job. (Statistics cards put out by the DCL system tape do not have a sequence number.)

Other information (not specifically labeled above) is in variable positions. Normally the information is in the address of the word, with an identifying code in the decrement. If a full word is required for the information, the decrement code is contained in the word immediately preceding, which then has a zero address.

Decre. Codes

01   System Type
- 0 = next word contains BCD name of system (DCL system tape)
- 1 = Monitor mode
- 2 = batch compile

02   Job Type
- 0 = this part of ID unreadable
- 1 = debug job
- 2 = test job
- 3 = results job
- 11 = next word contains TEST, RESULT or ESULTS in BCD (DCL system tape)

03   Execution-Chain
- bit 33
  - 0 = not chain
  - 1 = chain job
- bit 34
  - 0 = execution not asked
  - 1 = execution asked
- bit 35
  - 0 = execution not given
  - 1 = execution given

04   Total lines output A3

05   Next word contains final time in BCD (DCL system Tape)

06   Core Limits (2 words)
- common loc. counter in addr.
- highest loc. of program in decr.

07   User Output A3
- tag = 0 normally
- tag = 1 if job was cut off due to too much output

10   User Output on on-line printer

11   User Output B4 $\begin{cases} \text{tag} = 0 \text{ normally} \\ \text{tag} = 1 \text{ if job was cut off} \\ \qquad \text{due to too much output} \end{cases}$

12   User Output on on-line punch

13   Total time for this run in 10^{ths} of minutes (Version I)

14   Time spent in F2PM in 10^{ths} of iminutes (Version I)

15   Number of FAP cards for this subprogram $\Big]$ $\begin{cases} \text{tag} = 0 \text{ good} \\ \qquad \text{assembly} \\ \text{tag} = 1 \text{ bad} \\ \qquad \text{assembly} \end{cases}$

16   Time in FAP in 10^{ths} of minutes (Version I)

17   Number of Fortran cards for this subprogram (does not occur after 4/61) $\begin{cases} \text{tag} = 0 \text{ good} \\ \qquad \text{compilation} \\ \text{tag} = 1 \text{ source} \\ \qquad \text{error} \end{cases}$

20   Time in Fortran in 10^{ths} of minutes (eff. 4/61 Code 20 only signifies time for good compilation; does not occur in Version II.)

21   Number of library routines followed by BCD names of the library routines (does not occur after 4/61)

22   Common overlapping program

23   Incomplete time-record number where it occurred (means total time was impossible to compute)

24   Number of binary program from A2

25   Number of lines of F2PM output

26   Time spent in BSS in 10^{ths} of minutes (Version I)

27   Machine error time in 10^{ths} of minutes (4/61-4/16/62)

     The status of the sense lights in bits 20-23 of the next word indicate where the machine error occurred. If it occurred in FAP, the decrement contains the number of FAP cards

30   Source Error (2 words) time in 10^{ths} of minute (4/61 - 4/16/62)

31   MAD time in 10^{ths} of minute for this subprogram (11/61-4/16/62) $\begin{cases} \text{tag} = 0 \text{ good compilation} \\ \text{tag} = 1 \text{ source error} \end{cases}$

32   Number of MAD cards for this subprogram $\begin{cases} \text{tag} = 0 \text{ good compilation} \\ \text{tag} = 1 \text{ source error} \end{cases}$

33   Number of FORTRAN cards for this subprogram Version II) $\begin{cases} \text{tag} = 0 \text{ good compilation} \\ \text{tag} = 1 \text{ source error} \end{cases}$

34   Program overlapping loading tables (eff. after 4/61)

35	Total time of run in hundreds of minutes						{ tag 0 = normal { tag 1 = time exceeded
36	"	"	in Fap "	"	"	"	{ tag 0 = normal { tag 1 = unsuccessful assembly
37	"	"	" Fortran	"	"	"	{ tag = 0 good compilation { tag = 1 source error
40	"	"	" Mad	"	"	"	"
41	"	"	" BSS	"	"	"	"
42	"	"	" F2PM "	"	"	"
43	"	"	" Machine error	"	"	

Where it occurred:

tag = 0 Fap

tag = 1 Fortran

tag = 2 Mad

tag = 3 Monitor