





```

1 0001 0 MODULE DISPAT (
2 0002 0 LANGUAGE (BLISS32),
3 0003 0 MAIN = STARTUP,
4 0004 0 IDENT = 'V04-000'
5 0005 0 ) =
6 0006 1 BEGIN
7 0007 1
8 0008 1
9 0009 1 *****
10 0010 1 *
11 0011 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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28 0028 1 *
29 0029 1 *
30 0030 1 *****
31 0031 1
32 0032 1 ++
33 0033 1
34 0034 1 FACILITY: F11ACP Structure Level 1
35 0035 1
36 0036 1 ABSTRACT:
37 0037 1
38 0038 1 This module is the main routine of FCP. It dequeues a request,
39 0039 1 executes it, and signals completion to the user.
40 0040 1
41 0041 1 ENVIRONMENT:
42 0042 1
43 0043 1 STARLET operating system, including privileged system services
44 0044 1 and internal exec routines.
45 0045 1
46 0046 1 --
47 0047 1
48 0048 1
49 0049 1 AUTHOR: Andrew C. Goldstein, CREATION DATE: 20-Dec-1976 14:33
50 0050 1
51 0051 1 MODIFIED BY:
52 0052 1
53 0053 1 V02-001 LMP0005 L. Mark Pilant, 13-Jan-1982 13:10
54 0054 1 Adding support for Cathedral windows.
55 0055 1
56 0056 1 A0100 ACG0001 Andrew C. Goldstein, 10-Oct-1978 20:01
57 0057 1 Previous revision history moved to f11A.REV

```

```
58 0058 1 |  
59 0059 1 |**  
60 0060 1 |  
61 0061 1 |  
62 0062 1 LIBRARY 'SYSS$LIBRARY:LIB.L32';  
63 0063 1 REQUIRE 'SRC$:FCPDEF.B32';  
64 0378 1 |  
65 0379 1 |  
66 0380 1 | Establish the max and min function codes for the function dispatch.  
67 0381 1 |  
68 0382 1 |  
69 0383 1 LITERAL  
70 0384 1     LOW_FUNCTION = MINU (  
71 0385 1         IOS_ACCESS,  
72 0386 1         IOS_CREATE,  
73 0387 1         IOS_DEACCESS,  
74 0388 1         IOS_DELETE,  
75 0389 1         IOS_MODIFY,  
76 0390 1         IOS_ACPCONTROL,  
77 0391 1         IOS_MOUNT  
78 0392 1     ),  
79 0393 1  
80 0394 1     HIGH_FUNCTION = MAXU (  
81 0395 1         IOS_ACCESS,  
82 0396 1         IOS_CREATE,  
83 0397 1         IOS_DEACCESS,  
84 0398 1         IOS_DELETE,  
85 0399 1         IOS_MODIFY,  
86 0400 1         IOS_ACPCONTROL,  
87 0401 1         IOS_MOUNT  
88 0402 1     );  
89 0403 1  
90 0404 1 FORWARD ROUTINE  
91 0405 1     STARTUP           : NOVALUE,  
92 0406 1     DISPATCHER      : NOVALUE,  
93 0407 1     MAIN_HANDLER     : NOVALUE;
```

```

: 95      0408 1 GLOBAL ROUTINE STARTUP : NOVALUE =
: 96      0409 1
: 97      0410 1 !++
: 98      0411 1
: 99      0412 1 FUNCTIONAL DESCRIPTION:
100     0413 1
101     0414 1     This routine is the startup point for FCP. It locks all of FCP
102     0415 1     into memory and then calls the dispatcher loop in exec mode.
103     0416 1
104     0417 1 CALLING SEQUENCE:
105     0418 1     UNDEFINED
106     0419 1
107     0420 1 INPUT PARAMETERS:
108     0421 1     NONE
109     0422 1
110     0423 1 IMPLICIT INPUTS:
111     0424 1     NONE
112     0425 1
113     0426 1 OUTPUT PARAMETERS:
114     0427 1     NONE
115     0428 1
116     0429 1 IMPLICIT OUTPUTS:
117     0430 1     NONE
118     0431 1
119     0432 1 ROUTINE VALUE:
120     0433 1     NONE
121     0434 1
122     0435 1 SIDE EFFECTS:
123     0436 1     FCP locked into memory, dispatcher started.
124     0437 1
125     0438 1 !--
126     0439 1
127     0440 2 BEGIN
128     0441 2
129     0442 2
130     0443 2 EXEC_CALL (DISPATCHER);
131     0444 2
132     0445 1 END;

```

! end of routine STARTUP

```

.TITLE  DISPAT
.IDENT  \V04-000\
.EXTRN  SYSS$CMEXEC
.PSECT  $CODE$,NOWRT,2
.ENTRY  STARTUP, Save nothing
CLRL   -(SP)
PUSHL  SP
PUSHAB DISPATCHER
CALLS  #3, @#SYSS$CMEXEC
RET

```

```

: 0408
: 0443
:
: 0445

```

: Routine Size: 18 bytes, Routine Base: \$CODE\$ + 0000

```
134 0446 1 GLOBAL ROUTINE DISPATCHER : NOVALUE =
135 0447 1
136 0448 1 ++
137 0449 1
138 0450 1 FUNCTIONAL DESCRIPTION:
139 0451 1
140 0452 1 This routine is the main routine of FCP. It dequeues a request,
141 0453 1 executes it, and signals completion to the user.
142 0454 1
143 0455 1 CALLING SEQUENCE:
144 0456 1 DISPATCHER ( )
145 0457 1
146 0458 1 INPUT PARAMETERS:
147 0459 1 NONE
148 0460 1
149 0461 1 IMPLICIT INPUTS:
150 0462 1 NONE
151 0463 1
152 0464 1 OUTPUT PARAMETERS:
153 0465 1 NONE
154 0466 1
155 0467 1 IMPLICIT OUTPUTS:
156 0468 1 NONE
157 0469 1
158 0470 1 ROUTINE VALUE:
159 0471 1 NONE
160 0472 1
161 0473 1 SIDE EFFECTS:
162 0474 1 FCP functions executed
163 0475 1
164 0476 1 --
165 0477 1
166 0478 2 BEGIN
167 0479 2
168 0480 2 LOCAL
169 0481 2 FUNCTION: ! function being executed
170 0482 2
171 0483 2 EXTERNAL
172 0484 2 IO_PACKET : REF BBLOCK; ! current I/O packet
173 0485 2
174 0486 2 EXTERNAL ROUTINE
175 0487 2 INIT_FCP, ! one time initialization
176 0488 2 INIT_COMMON, ! per call initialization
177 0489 2 PMS_START, ! start performance metering
178 0490 2 PMS_END, ! end performance metering
179 0491 2 GET_REQUEST, ! get next I/O request
180 0492 2 READ_WRITEVB, ! process read/write virtual
181 0493 2 ACCESS, ! ACCESS function routine
182 0494 2 CREATE, ! CREATE function routine
183 0495 2 DEACCESS, ! DEACCESS function routine
184 0496 2 DELETE, ! DELETE function routine
185 0497 2 MODIFY, ! MODIFY function routine
186 0498 2 ACPCONTROL, ! ACPCONTROL function routine
187 0499 2 MOUNT, ! MOUNT function routine
188 0500 2 ERR_CLEANUP, ! error cleanup routine
189 0501 2 CLEANUP, ! general cleanup routine
190 0502 2 IO_DONE; ! I/O completion processing
```

```
191 0503 2
192 0504 2
193 0505 2 ! Do the one time initialization. Then for each request, do the per
194 0506 2 request initialization, get the next request, and process it. If
195 0507 2 the request fails, call the error cleanup before returning
196 0508 2 completion.
197 0509 2
198 0510 2
199 0511 2 ! ENABLE MAIN_HANDLER;
200 0512 2 BEGIN
201 0513 2 BUILTIN FP;
202 0514 2 .FP = MAIN_HANDLER;
203 0515 2 END;
204 0516 2 KERNEL_CALL (INIT_FCP);
205 0517 2
206 0518 2 WHILE 1 DO
207 0519 2 BEGIN
208 0520 2 PMS_START ();
209 0521 2 INIT_COMMON ();
210 0522 2 IO_PACKET = KERNEL_CALL (GET_REQUEST);
211 0523 2 FUNCTION = .IO_PACKET[IRPSV_FCODE];
212 0524 2
213 0525 2 IF .FUNCTION EQL IOS_READPBLK
214 0526 2 OR .FUNCTION EQL IOS_WRITEPBLK
215 0527 2 THEN
216 0528 2 4 BEGIN
217 0529 2 4 IF NOT READ_WRITEVB ()
218 0530 2 4 THEN
219 0531 2 4 BEGIN
220 0532 2 4 IF ERR_CLEANUP () THEN CLEANUP () ELSE (ERR_CLEANUP (); CLEANUP ());
221 0533 2 4 PMS_END ();
222 0534 2 4 KERNEL_CALL (IO_DONE, .IO_PACKET);
223 0535 2 4 END;
224 0536 2 4 END
225 0537 2 3 ELSE
226 0538 2 4 BEGIN
227 0539 2 4 4 IF
228 0540 2 4 4 (
229 0541 2 4 4 5 (
230 0542 2 4 4 5 CASE .FUNCTION FROM LOW_FUNCTION TO HIGH_FUNCTION OF
231 0543 2 4 4 5 SET
232 0544 2 4 4 5 [IOS_ACCESS]: ACCESS ();
233 0545 2 4 4 5 [IOS_CREATE]: CREATE ();
234 0546 2 4 4 5 [IOS_DEACCESS]: DEACCESS ();
235 0547 2 4 4 5 [IOS_DELETE]: DELETE ();
236 0548 2 4 4 5 [IOS_MODIFY]: MODIFY ();
237 0549 2 4 4 5 [IOS_ACPCONTROL]: ACPCONTROL ();
238 0550 2 4 4 5 [IOS_MOUNT]: MOUNT ();
239 0551 2 4 4 5 [INRANGE]: (ERR_STATUS (SS$_ILLIOFUNC); 0);
240 0552 2 4 4 5 [OUTRANGE]: (ERR_STATUS (SS$_ILLIOFUNC); 0);
241 0553 2 4 4 5 TES
242 0554 2 4 4 5 )
243 0555 2 4 4 THEN ! successful completion
244 0556 2 4 5 BEGIN
245 0557 2 4 5 IF NOT CLEANUP () THEN (ERR_CLEANUP (); CLEANUP ());
246 0558 2 4 5 END
247 0559 2 4 ELSE ! error completion
```

```

: 248      0560 5      BEGIN
: 249      0561 5      IF ERR_CLEANUP () THEN CLEANUP () ELSE (ERR_CLEANUP ()); CLEANUP ();
: 250      0562 4      END;
: 251      0563 4
: 252      0564 4      PMS END ();
: 253      0565 4      KERNEL_CALL (IO_DONE, .IO_PACKET);
: 254      0566 4      END
: 255      0567 2      END;
: 256      0568 2
: 257      0569 1      END;

```

! end of routine DISPATCHER

```

.EXTRN IO_PACKET, INIT_FCP
.EXTRN INIT_COMMON, PMS_START
.EXTRN PMS_END, GET_REQUEST
.EXTRN READ_WRITEVB, ACCESS
.EXTRN CREATE, DEACCESS
.EXTRN DELETE, MODIFY, ACPCONTROL
.EXTRN MOUNT, ERR_CLEANUP
.EXTRN CLEANUP, IO_DONE
.EXTRN SYSSCMKRN, USER_STATUS

```

				001C 00000	.ENTRY DISPATCHER, Save R2,R3,R4	: 0446
		54	00000000G	00 9E 00002	MOVAB USER_STATUS, R4	
		53	00000000G	9F 9E 00009	MOVAB @SYSSCMKRN, R3	
		6D	0000V	CF 9E 00010	MOVAB MAIN_HANDLER, (FP)	: 0514
				7E D4 00015	CLRL -(SP)	: 0516
				5E DD 00017	PUSHL SP	
			0000G	CF 9F 00019	PUSHAB INIT_FCP	
		63		03 FB 0001D	CALLS #3, SYSSCMKRN	
		0000G	CF	00 FB 00020	CALLS #0, PMS_START	: 0520
		0000G	CF	00 FB 00025	CALLS #0, INIT_COMMON	: 0521
				7E D4 0002A	CLRL -(SP)	: 0522
				5E DD 0002C	PUSHL SP	
			0000G	CF 9F 0002E	PUSHAB GET_REQUEST	
		63		03 FB 00032	CALLS #3, SYSSCMKRN	
		0000G	CF	50 D0 00035	MOVL R0, IO_PACKET	
52	20	A0		00 EF 0003A	EXTZV #0, #6, 32(R0), FUNCTION	: 0523
				52 D1 00040	CMPL FUNCTION, #12	: 0525
				05 13 00043	BEQL 2\$	
				52 D1 00045	CMPL FUNCTION, #11	: 0526
				0A 12 00048	BNEQ 3\$	
		0000G	CF	00 FB 0004A	CALLS #0, READ_WRITEVB	: 0529
			CE	50 E8 0004F	BLBS R0, 1\$	
				5D 11 00052	BRB 15\$	: 0532
		32		52 CF 00054	CASEL FUNCTION, #50, #7	: 0542
0027	07	0019	0012	00058	.WORD	
003C	0020	0035	0046	00060		
					5\$-4\$,-	
					6\$-4\$,-	
					7\$-4\$,-	
					8\$-4\$,-	
					9\$-4\$,-	
					13\$-4\$,-	
					10\$-4\$,-	
					11\$-4\$	
					13\$	: 0552
		0000G	CF	34 11 00068	BRB	
				00 FB 0006A	CALLS #0, ACCESS	: 0544





```

280 0592 1 |
281 0593 1 | IMPLICIT OUTPUTS:
282 0594 1 |     USER_STATUS: receives signal code
283 0595 1 |
284 0596 1 | ROUTINE VALUE:
285 0597 1 |     NONE
286 0598 1 |
287 0599 1 | SIDE EFFECTS:
288 0600 1 |     stack unwound to main level to return to dispatcher
289 0601 1 |
290 0602 1 | --
291 0603 1 |
292 0604 2 | BEGIN
293 0605 2 |
294 0606 2 | MAP
295 0607 2 |     SIGNAL          : REF BBLOCK,    ! signal array arg
296 0608 2 |     MECHANISM       : REF BBLOCK;    ! mechanism array arg
297 0609 2 |
298 0610 2 | EXTERNAL
299 0611 2 |     USER_STATUS     : WORD;          ! I/O status to user
300 0612 2 |
301 0613 2 | EXTERNAL ROUTINE
302 0614 2 |     SYSSUNWIND      : ADDRESSING_MODE (ABSOLUTE);
303 0615 2 |
304 0616 2 |
305 0617 2 | ! Check the signal code. The only permissible ones are SSS_UNWIND, which
306 0618 2 | ! is ignored, and SSS_CMODUSER. The error status is the 16 bit CHMU code.
307 0619 2 | ! If the error value is non-zero, store it in the user status (zero
308 0620 2 | ! means just exit). Set up a return value of 0, unwind to the current
309 0621 2 | ! depth, and return, causing the invoked function to return with failure
310 0622 2 | ! to the dispatcher.
311 0623 2 |
312 0624 2 |
313 0625 2 | IF .SIGNAL[CHFSL_SIG_NAME] EQL SSS_UNWIND THEN RETURN;
314 0626 2 | IF .SIGNAL[CHFSL_SIG_NAME] NEQ SSS_CMODUSER
315 0627 2 | THEN BUG_CHECK (ONXSIGNAL, FATAL, 'Unexpected signal name in ACP');
316 0628 2 |
317 0629 2 | IF .SIGNAL[CHFSL_SIG_ARG1] NEQ 0
318 0630 2 | THEN USER_STATUS = .SIGNAL[CHFSL_SIG_ARG1];
319 0631 2 |
320 0632 2 | MECHANISM[CHFSL_MCH_SAVRO] = 0;
321 0633 2 |
322 0634 2 | SYSSUNWIND (MECHANISM[CHFSL_MCH_DEPTH], 0);
323 0635 2 |
324 0636 2 | RETURN;
325 0637 2 |
326 0638 1 | END;

```

! end of routine MAIN\_HANDLER

.EXTRN SYSSUNWIND, BUGS\_UNXSIGNAL

```

00000920 50 04 AC D0 00002
00000424 8F 04 A0 D1 0000E
00000424 8F 04 A0 D1 00010

```

```

.ENTRY MAIN_HANDLER, Save nothing
MOVL SIGNAL, R0
CML 4(R0), #2336
BEQL 3$
CML 4(R0), #1060

```

```

: 0570
: 0625
:
: 0626

```

```

04 13 00018 BEQL 1$
FEFF 0001A BUGW
0000* 0001C .WORD <BUG$ UNXSIGNAL!4>
50 04 AC D0 0001E 1$: MOVL SIGNAL, R0
08 A0 D5 00022 TSTL 8(R0)
06 13 00025 BEQL 2$
0000G CF 08 A0 B0 00027 MOVW 8(R0), USER STATUS
50 08 AC D0 0002D 2$: MOVL MECHANISM, R0
OC A0 D4 00031 CLRL 12(R0)
7E D4 00034 CLRL -(SP)
08 A0 9F 00036 PUSHAB 8(R0)
00000000G 9F 02 FB 00039 CALLS #2, @#SYSSUNWIND
04 00040 3$: RET

```

: Routine Size: 65 bytes, Routine Base: \$CODE\$ + 00EC

```

: 327 0639 1
: 328 0640 1 END
: 329 0641 0 ELUDOM

```

PSECT SUMMARY

```

: Name Bytes Attributes
: $CODE$ 301 NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

```

Library Statistics

```

: File Total Symbols Loaded Percent Pages Mapped Processing Time
: _$255$DUA28:[SYSLIB]LIB.L32;1 18619 18 0 1000 00:01.9

```

COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:DISPAT/OBJ=OBJ\$:DISPAT MSRC\$:DISPAT/UPDATE=(ENH\$:DISPAT)

```

: Size: 301 code + 0 data bytes
: Run Time: 00:09.6
: Elapsed Time: 00:26.7
: Lines/CPU Min: 4010
: Lexemes/CPU-Min: 12938

```

DISPAT  
V04-000

<sup>0 6</sup>  
16-Sep-1984 00:45:27 VAX-11 Bliss-32 V4.0-742

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: Memory Used: 117 pages  
: Compilation Complete

EXT  
V04



