


```

SSSSSSSS YY YY SSSSSSS DDDDDDD CCCCCCC LL CCCCCCC MM MM HH HH
SSSSSSSS YY YY SSSSSSS DDDDDDD CCCCCCC LL CCCCCCC MM MM HH HH
SS SS YY YY SS SSSSSSS DD DD CC CCCCCCC CC MMMM MMMM HH HH
SS SS YY YY SS SSSSSSS DD DD CC CCCCCCC CC MMMM MMMM HH HH
SS YY YY YY YY YY YY DD DD CC CCCCCCC CC MM MM MM HH HH
SSSSSS YY YY SSSSSSS DD DD CC CCCCCCC CC MM MM MM HH HH
SSSSSS YY YY SSSSSSS DD DD CC CCCCCCC CC MM MM MM HH HH
SS YY YY YY YY YY YY DD DD CC CCCCCCC CC MM MM MM HH HH
SS YY YY YY YY YY YY DD DD CC CCCCCCC CC MM MM MM HH HH
SSSSSSSS YY SSSSSSS DDDDDDD CCCCCCC LLLLLLLLLL CCCCCCC MM MM HH HH
SSSSSSSS YY SSSSSSS DDDDDDD CCCCCCC LLLLLLLLLL CCCCCCC MM MM HH HH

```

```

LL I I I I I I SSSSSSS
LL I I I I I I SSSSSSS
LL I I I I I I SS
LL I I I I I I SS
LL I I I I I I SS
LL I I I I I I SSSSSS
LL I I I I I I SSSSSS
LL I I I I I I SS
LL I I I I I I SS
LL I I I I I I SS
LL I I I I I I SSSSSSS
LLLLLLLLLLLL I I I I I I SSSSSSS
LLLLLLLLLLLL I I I I I I SSSSSSS

```

(1) 48

DECLARE CHANGE MODE OR COMPATIBILITY MODE HANDLER

```

0000 1      .TITLE SYSDCLCMH - DECLARE CHANGE MODE OR COMPATIBILITY MODE HANDLER
0000 2      .IDENT 'V04-000'
0000 3
0000 4
0000 5 *****
0000 6
0000 7 *   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
0000 8 *   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.
0000 9 *   ALL RIGHTS RESERVED.
0000 10
0000 11 *   THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED
0000 12 *   ONLY IN ACCORDANCE WITH THE TERMS OF SUCH LICENSE AND WITH THE
0000 13 *   INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR ANY OTHER
0000 14 *   COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY
0000 15 *   OTHER PERSON. NO TITLE TO AND OWNERSHIP OF THE SOFTWARE IS HEREBY
0000 16 *   TRANSFERRED.
0000 17
0000 18 *   THE INFORMATION IN THIS SOFTWARE IS SUBJECT TO CHANGE WITHOUT NOTICE
0000 19 *   AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT
0000 20 *   CORPORATION.
0000 21
0000 22 *   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS
0000 23 *   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.
0000 24
0000 25 *****
0000 26
0000 27
0000 28 H. M. LEVY 17-MAR-77
0000 29
0000 30 SYSTEM SERVICE DECLARE CHANGE MODE OR COMPATIBILITY MODE HANDLER
0000 31
0000 32 MACRO LIBRARY CALLS
0000 33
0000 34
0000 35 $PSLDEF ;DEFINE PROCESSOR STATUS FIELDS
0000 36 $$$DEF ;DEFINE SYSTEM STATUS VALUES
0000 37
0000 38
0000 39 LOCAL SYMBOLS
0000 40
0000 41 ARGUMENT LIST OFFSET DEFINITIONS
0000 42
0000 43
00000004 0000 44 ADDRES=4 ;ADDRESS OF NEW CHANGE MODE HANDLER
00000008 0000 45 PRVHND=8 ;ADDRESS OR RECIEVE OLD HANDLER ADDRESS
0000000C 0000 46 TYPE=12 ;TYPE OF HANDLER TO DECLARE

```

```

0000 48 .SBTTL DECLARE CHANGE MODE OR COMPATIBILITY MODE HANDLER
0000 49 :+
0000 50 : EXE$DCLCMH - DECLARE CHANGE MODE OR COMPATIBILITY MODE HANDLER
0000 51 :
0000 52 : THIS SERVICE PROVIDES THE CAPABILITY TO SPECIFY A COMPATIBILITY MODE
0000 53 : HANDLER FOR COMPATIBILITY MODE TRAPS, OR A CHANGE MODE HANDLER FOR
0000 54 : THE CALLING ACCESS MODE. A CHANGE MODE HANDLER MAY ONLY BE
0000 55 : FROM SUPERVISOR OR USER MODES.
0000 56 :
0000 57 : INPUTS:
0000 58 :
0000 59 :     ADDRES(AP) = ADDRESS OF HANDLER TO BE DECLARED
0000 60 :     PRVHND(AP) = ADDRESS TO RETURN OLD HANDLER ADDRESS
0000 61 :     TYPE(AP) = TYPE OF HANDLER TO BE DECLARED
0000 62 :     0 -> DECLARE CHANGE MODE HANDLER FOR CURRENT MODE
0000 63 :     1 -> DECLARE COMPATIBILITY MODE HANDLER
0000 64 :
0000 65 :     R4 = CURRENT PROCESS PCB ADDRESS.
0000 66 :
0000 67 : IMPLICIT INPUTS:
0000 68 :
0000 69 :     CTL$GL_CMSUPR = ADDRESS OF THE FIRST OF THREE VECTORS, THE FIRST
0000 70 :     TWO BEING THE CHANGE MODE VECTORS FOR SUPERVISOR
0000 71 :     AND USER MODES, THE THIRD BEING THE COMPATIBILITY
0000 72 :     MODE VECTOR.
0000 73 :
0000 74 : OUTPUTS:
0000 75 :
0000 76 :     R0 LOW BIT CLEAR INDICATES FAILURE TO DECLARE CHANGE MODE HANDLER
0000 77 :
0000 78 :     R0 = $$$ ACCVIO - PREVIOUS HANDLER ADDRESS CANNOT BE
0000 79 :     WRITTEN TO @PRVHND(AP) BY CALLING ACCESS MODE.
0000 80 :
0000 81 :     R0 LOW BIT SET INDICATES SUCCESSFUL COMPLETION.
0000 82 :
0000 83 :     R0 = $$$_NORMAL - NORMAL COMPLETION.
0000 84 :
0000 85 : SIDE EFFECTS:
0000 86 :
0000 87 :     SERVICE WILL CAUSE A BUGCHECK IF CALLED TO DECLARE CHANGE
0000 88 :     MODE HANDLER FROM KERNEL OR EXECUTIVE MODES.
0000 89 :
0000 90 :
0000 91 : .PSECT Y$EXEPAGED
0000 92 : .ENTRY EXE$DCLCMH, ^M<R4>
54 00000000'9F 0010 0000 93 MOVAL @#CTL$GL_CMSUPR,R4 ; ADDRESS OF VECTORS
    50 02 D0 0009 94 MOVL #2,R0 ; INDEX TO COMPAT. MODE HANDLER VECTOR
    OC OC AC E8 000C 95 BLBS TYPE(AP),10$ ; BRANCH IF DECLARE COMPAT. HANDLER SERVICE
    50 DC 0010 96 MOVPSL R0 ; READ CURRENT PSL
50 50 02 16 EF 0012 97 EXTZV #PSL$V_PRVMOD,#PSL$$_PRVMOD,R0,R0 ; EXTRACT PREVIOUS MODE
    50 02 C2 0017 98 SUBL #2,R0 ; SUBTRACT SUPERVISOR MODE BIAS
    19 19 001A 99 BLSS 30$ ; IF LSS, CALLED FROM KERNEL OR EXEC
    51 08 AC D0 001C 100 10$: MOVL PRVHND(AP),R1 ; GET ADDRESS TO RETURN PREVIOUS HANDLER
    OA 13 0020 101 BEQL 20$ ; BRANCH IF NONE SPECIFIED
    0022 102 IFNOWRT #4,(R1),40$ ; CAN IT BE WRITTEN?
    61 6440 D0 0028 103 MOVL (R4)[R0],(R1) ; YES, RETURN PREVIOUS HANDLER ADDRESS
6440 04 AC D0 002C 104 20$: MOVL ADDRES(AP),(R4)[R0] ; SET NEW HANDLER ADDRESS
  
```

SY
VA
52
Th
MA

```
50 01 3C 0031 105 MOVZWL #SS$ _NORMAL,RO ; NORMAL STATUS
      04 0034 106 RET ;
50 0174 8F 3C 0035 107 30$: BUG CHECK IVSSRVQST ; INVALID SYSTEM SERVICE REQUEST
      04 0039 108 MOVZWL #SS$ _IVSSRQ,RO ; INVALID SERVICE REQUEST RETURN CODE
      04 003E 109 RET ;
50 0C 3C 003F 110 40$: MOVZWL #SS$ _ACCVIO,RO ; ACCESS VIOLATION CODE
      04 0042 111 RET ;
      04 0043 112 .END
      04 0043 113
```

SYSDCLCMH
Symbol table

```

ADDRES          = 00000004
BUG$ IVSSRVQST ***** X 02
CTL$GL CMSUPR ***** X 02
EXE$DCCMH      00000000 RG 02
PRVHND         = 00000008
PSL$$_PRVMOD   = 00000002
PSL$V-PRVMOD   = 00000016
SS$_ACCVIO     = 0000000C
SS$_IVSSRQ     = 00000174
SS$_NORMAL     = 00000001
TYPE           = 0000000C
  
```

+-----+
! Psect synopsis !
+-----+

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
\$AB\$\$	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
Y\$EXEPAGED	00000043 (67.)	02 (2.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE

+-----+
! Performance indicators !
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	29	00:00:00.08	00:00:01.97
Command processing	108	00:00:00.53	00:00:05.05
Pass 1	203	00:00:04.04	00:00:13.18
Symbol table sort	0	00:00:00.67	00:00:02.96
Pass 2	40	00:00:00.70	00:00:04.18
Symbol table output	3	00:00:00.03	00:00:00.24
Psect synopsis output	1	00:00:00.03	00:00:00.40
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	386	00:00:06.09	00:00:27.98

The working set limit was 1050 pages.
 22129 bytes (44 pages) of virtual memory were used to buffer the intermediate code.
 There were 30 pages of symbol table space allocated to hold 452 non-local and 4 local symbols.
 113 source lines were read in Pass 1, producing 16 object records in Pass 2.
 11 pages of virtual memory were used to define 10 macros.

+-----+
! Macro library statistics !
+-----+

Macro library name	Macros defined
_\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	2
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2	5
TOTALS (all libraries)	7

521 GETS were required to define 7 macros.

There were no errors, warnings or information messages.

SYSDCLCMH
VAX-11 Macro Run Statistics

- DECLARE CHANGE MODE OR COMPATIBILITY M 16-SEP-1984 01:56:45 VAX/VMS Macro V04-00
5-SEP-1984 03:50:24 [SYS.SRC]SYSDCLCMH.MAR;1

Page 5
(1)

MACRO/LIS=LISS:SYSDCLCMH/OBJ=OBJ\$:SYSDCLCMH MSRC\$:SYSDCLCMH/UPDATE=(ENH\$:SYSDCLCMH)+EXECMLS/LIB

SYSCMPSC
LIS

SYSDCLEXH
LIS

SYSDVALC
LIS

SYSCURTIM
LIS

SYSDGBLSC
LIS

SYSENQDEQ
LIS

SYSDCLMH
LIS

SYSDERLMB
LIS

SYSDASSGN
LIS

SYSDLPRC
LIS