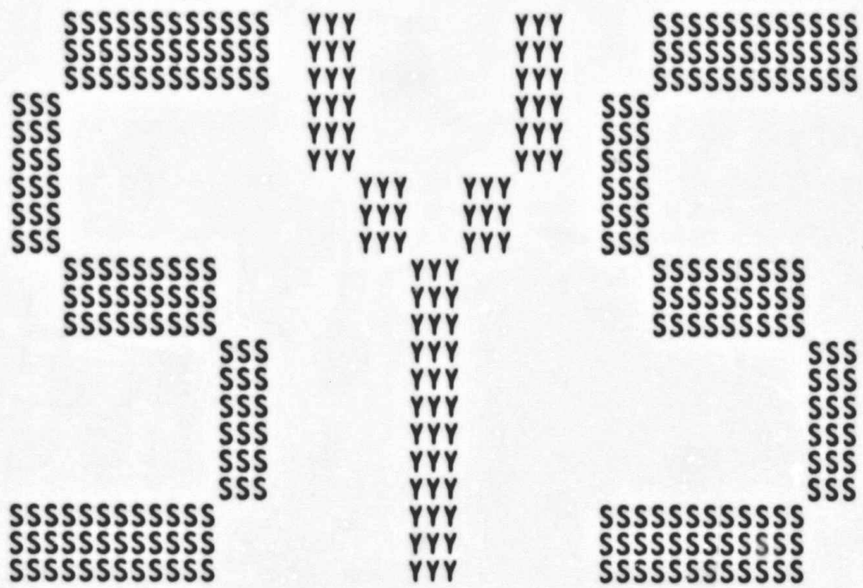
SSSSSSSSSSS YYY YYY SSSSSSSSSSS
SSSSSSSSSSS YYY YYY SSSSSSSSSSS
SSSSSSSSSSS YYY YYY SSSSSSSSSSS
SSS YYY YYY SSS
SSS YYY YYY SSS
SSS YYY YYY SSS
SSS YYY YYY SSS
SSS YYY YYY SSS
SSS YYY YYY SSS
SSSSSSSSS YYY SSSSSSSSS
SSSSSSSSS YYY SSSSSSSSS
SSSSSSSSS YYY SSSSSSSSS
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SSS YYY SSS
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SSS YYY SSS
SSS YYY SSS
SSSSSSSSSSS YYY SSSSSSSSSSS
SSSSSSSSSSS YYY SSSSSSSSSSS
SSSSSSSSSSS YYY SSSSSSSSSSS

FILEID**SYSERAPAT

```
  SSSSSSSS  YY      YY   SSSSSSSS  EEEEEEEEEE  RRRRRRRR     AAAAAA    PPPPPPPP     AAAAAA    TTTTTTTTTT
  SSSSSSSS  YY      YY   SSSSSSSS  EEEEEEEEEE  RRRRRRRR     AAAAAA    PPPPPPPP     AAAAAA    TTTTTTTTTT
SS          YY      YY  SS         EE          RR      RR  AA    AA  PP      PP   AA    AA      TT
SS          YY      YY  SS         EE          RR      RR  AA    AA  PP      PP   AA    AA      TT
SS            YY  YY    SS         EE          RR      RR  AA    AA  PP      PP   AA    AA      TT
SS            YY  YY    SS         EE          RR      RR  AA    AA  PP      PP   AA    AA      TT
  SSSSSS        YY      SSSSSS     EEEEEEEE    RRRRRRRR   AA    AA  PPPPPPPP   AA    AA      TT
  SSSSSS        YY      SSSSSS     EEEEEEEE    RRRRRRRR   AA    AA  PPPPPPPP   AA    AA      TT
        SS      YY            SS   EE          RR  RR     AAAAAAAAAA  PP         AAAAAAAAAA      TT
        SS      YY            SS   EE          RR  RR     AAAAAAAAAA  PP         AAAAAAAAAA      TT
        SS      YY            SS   EE          RR    RR   AA    AA    PP         AA    AA        TT      ....
        SS      YY            SS   EE          RR    RR   AA    AA    PP         AA    AA        TT      ....
SSSSSSSS        YY    SSSSSSSS     EEEEEEEEEE  RR      RR AA    AA    PP         AA    AA        TT      ....
SSSSSSSS        YY    SSSSSSSS     EEEEEEEEEE  RR      RR AA    AA    PP         AA    AA        TT      ....
```

```
LL            IIIIII     SSSSSSSS
LL            IIIIII     SSSSSSSS
LL              II     SS
LL              II     SS
LL              II     SS
LL              II     SS
LL              II       SSSSSS
LL              II       SSSSSS
LL              II             SS
LL              II             SS
LL              II             SS
LL              II             SS
LLLLLLLLLL    IIIIII   SSSSSSSS
LLLLLLLLLL    IIIIII   SSSSSSSS
```

Table of contents

(1) 57 Declarations
(1) 72 Entry vector
(1) 107 Main routine

```
0000     1          .TITLE  SYSERAPAT - Generate a security erase pattern
0000     2          .IDENT  'V04-000'
0000     3  ;
0000     4  ;****************************************************************************
0000     5  ;*                                                                          *
0000     6  ;*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                 *
0000     7  ;*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                   *
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0000    18  ;*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT    *
0000    19  ;*  CORPORATION.                                                            *
0000    20  ;*                                                                          *
0000    21  ;*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS    *
0000    22  ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                 *
0000    23  ;*                                                                          *
0000    24  ;*                                                                          *
0000    25  ;****************************************************************************
0000    26
0000    27  ;++
0000    28  ; FACILITY: VMS Executive, System services.
0000    29  ;
0000    30  ; ABSTRACT:
0000    31  ;
0000    32  ;       Generate and return a security erase pattern.  This code
0000    33  ;       is more or less a place holder for a user written routine to
0000    34  ;       accomplish the same function.  The erase pattern returned by
0000    35  ;       this routine will always be zero.
0000    36  ;
0000    37  ;
0000    38  ; ENVIRONMENT:
0000    39  ;
0000    40  ;       Kernel Mode
0000    41  ;
0000    42  ; AUTHOR:
0000    43  ;
0000    44  ;       Steven T. Jeffreys
0000    45  ;
0000    46  ; CREATION DATE:
0000    47  ;
0000    48  ;        24-September-1982
0000    49  ;
0000    50  ; MODIFIED BY:
0000    51  ;
0000    52  ;       V03-001 STJ3054          Steven T. Jeffreys,          21-Jan-1983
0000    53  ;               Removed EXE$ERAPAT_DEF definition.
0000    54  ;--
0000    55  ;
```

```
                        0000     57          .SBTTL  Declarations
                        0000     58          $ERADEF                         ; Define erase type codes
                        0000     59          $PSLDEF                         ; Define PSL fields
                        0000     60          $SSDEF                          ; Define status codes
                        0000     61
                        0000     62 ;
                        0000     63 ; Equated symbols:
                        0000     64 ;
                        0000     65
00000004                0000     66          TYPE    = 4                     ; Offset to TYPE parameter   (value)
00000008                0000     67          COUNT   = 8                     ; Offset to COUNT parameter  (value)
0000000C                0000     68          PATADR  = 12                    ; Offset to PATADR parameter (address)
                        0000     69
00000001                0000     70          MAXCOUNT= 1                     ; Maximum count (erase 1 time)
```

```
                     0000     72          .SBTTL  Entry vector
                     0000     73 ;+
                     0000     74 ; The following vectors are used by the various pieces of the system
                     0000     75 ; to access the erase pattern generator.  The vector EXE$ERAPAT is
                     0000     76 ; used by the change mode dispatcher in response to a user calling the
                     0000     77 ; $ERAPAT system service.  This vector then jumps to the actual dispatch
                     0000     78 ; vector, EXE$ERAPAT_VEC, which in turn will jump to erase pattern
                     0000     79 ; generator code.  This level of indirection is necessary because the
                     0000     80 ; change mode dispatch vector must be in close proximity to the change
                     0000     81 ; mode dispatcher, which implies that it must be in a read-only psect.
                     0000     82 ; The actual dispatch vector, EXE$ERAPAT_VEC, must be in a writable
                     0000     83 ; psect so that the contents of the vector may be changed.
                     0000     84 ;
                     0000     85 ; The longword SGN$GL_LOADFLAGS is a bit vector used to indicate which
                     0000     86 ; pieces of the loadable pieces of the EXEC should be loaded at system
                     0000     87 ; boot time.  If a user specified erase pattern generator routine is
                     0000     88 ; present in the system, the bit SGN$V_LOADERAPT will be set to 1.
                     0000     89 ; This fact can be used to the advantage of the EXEC to avoid the overhead
                     0000     90 ; of having to call the default erase pattern generator, since it always
                     0000     91 ; returns a zero, and is a one-step erase function.
                     0000     92 ;
                     0000     93 ; The vector address the user must specify to load the code is represented
                     0000     94 ; by the symbol EXE$ERAPAT_VEC.
                     0000     95 ;
                     0000     96 ;-
                     0000     97
                00000000     98          .PSECT  AEXENONPAGED            ; Nonpaged UR access only
                     0000     99 EXE$ERAPAT::                             ; Entry point from change-mode dispat.
                0000 0000    100          .WORD   0                       ; Register save mask (none saved)
00000000'9F       17 0002    101          JMP     @#EXE$ERAPAT_VEC        ; Jump to the dispatch vector
                     0008    102
                00000000    103          .PSECT  $$$500                  ; The vector must be nonpaged and URKW
                     0000    104 EXE$ERAPAT_VEC::                        ; Quick access entry point
00000000'9F       17 0000    105          JMP     @#EXE$ERAPAT_RTN        ; Vector to default routine
```

```
                     0006   107          .SBTTL  Main routine
                     0006   108 ;++
                     0006   109 ; $ERAPAT
                     0006   110 ;
                     0006   111 ; Functional description:
                     0006   112 ;
                     0006   113 ;       In order to perform a multi-step security erase, the caller repeatedly
                     0006   114 ;       calls this service, each time incrementing the iteration count.  After
                     0006   115 ;       each call, the erase pattern returned is written in the user supplied
                     0006   116 ;       area.  (The user is responsible for propagating that pattern throughout
                     0006   117 ;       memory, disk, tape, etc.)  When the service returns SS$_NOTRAN in R0,
                     0006   118 ;       the security erase operation is complete.
                     0006   119 ;
                     0006   120 ;       This simple routine will always return an erase pattern of 0.  It is
                     0006   121 ;       up to the system mangager to provide a specialized load algorithm.
                     0006   122 ;
                     0006   123 ; Calling sequence:
                     0006   124 ;
                     0006   125 ;       This routine should be called via a CALLS/G to EXE$ERAPAT.
                     0006   126 ;
                     0006   127 ; Input:
                     0006   128 ;
                     0006   129 ;       TYPE(AP)        : Security erase type.  The legal types are
                     0006   130 ;                               ERA$K_MEMORY : main memory
                     0006   131 ;                               ERA$K_DISK   : disk storage
                     0006   132 ;                               ERA$K_TAPE   : tape storage
                     0006   133 ;
                     0006   134 ;       COUNT(AP)       : Iteration count.  The service should be called
                     0006   135 ;                         the first time with the value 1, then 2, etc.,
                     0006   136 ;                         until the status SS$_NOTRAN is returned.  The
                     0006   137 ;                         local symbol MAXCOUNT defines how many times this
                     0006   138 ;                         happens.
                     0006   139 ;
                     0006   140 ; Output:
                     0006   141 ;
                     0006   142 ;       PATADR(AP)      : Address of a longword into which the security
                     0006   143 ;                         erase pattern is to be written.
                     0006   144 ;
                     0006   145 ; Routine value:
                     0006   146 ;
                     0006   147 ;       R0 = SS$_ACCVIO         : pattern output area not accessible
                     0006   148 ;            SS$_BADPARAM       : invalid security type code
                     0006   149 ;            SS$_NORMAL         : normal successful completion
                     0006   150 ;            SS$_NOTRAN         : security erase complete
                     0006   151 ;--
                     0006   152
                 00000000   153          .PSECT  Y$EXEPAGED                      ; This code is pageable
                     0000   154
                     0000   155 EXE$ERAPAT_RTN::                                 ; $ERAPAT code
   50    14    3C    0000   156          MOVZWL  #SS$_BADPARAM,R0                ; Assume bad parameter value
51    04 AC    D0    0003   157          MOVL    TYPE(AP),R1                     ; Get the type code
                     0007   158          ASSUME  ERA$K_MINTYPE EQ 1              ; This must be true if BLEQ is to work
         27    15    0007   159          BLEQ    69$                             ; Branch if type code too small
   51    03    D1    0009   160          CMPL    #ERA$K_MAXTYPE,R1               ; Is the type code too big?
         22    19    000C   161          BLSS    69$                             ; Branch if yes
51    08 AC    D0    000E   162          MOVL    COUNT(AP),R1                    ; Get the count
         1C    15    0012   163          BLEQ    69$                             ; Branch if too small
```

```
                50   0629 8F    3C   0014   164          MOVZWL  #SS$_NOTRAN,R0          ; Assume count too big
                     51   01    D1   0019   165          CMPL    #MAXCOUNT,R1          ; Are we done?
                          12    19   001C   166          BLSS    69$                   ; If less, then yes
                     50   0C    3C   001E   167          MOVZWL  #SS$_ACCVIO,R0        ; Assume access violation
                51   0C AC      D0   0021   168          MOVL    PATADR(AP),R1         ; Get address of user buffer
                                     0025   169          IFNOWRT #4,(R1),69$           ; Branch if no write access
                          61    D4   0028   170          CLRL    (R1)                  ; Return the erase pattern
                     50   01    3C   002D   171          MOVZWL  #SS$_NORMAL,R0        ; Set success status
                                04   0030   172 69$:     RET                           ; Return
                                     0031   173
                                     0031   174          .END
```

```
COUNT                   = 00000008
ERA$K_MAXTYPE           = 00000003
ERA$K_MINTYPE           = 00000001
EXE$ERAPAT                00000000 RG    02
EXE$ERAPAT_RTN            00000000 RG    04
EXE$ERAPAT_VEC            00000000 RG    03
MAXCOUNT                = 00000001
PATADR                  = 0000000C
SS$_ACCVIO              = 0000000C
SS$_BADPARAM            = 00000014
SS$_NORMAL              = 00000001
SS$_NOTRAN              = 00000629
TYPE                    = 00000004
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
ABS	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
AEXENONPAGED	00000008 (8.)	02 (2.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE
$$$500	00000006 (6.)	03 (3.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE
Y$EXEPAGED	00000031 (49.)	04 (4.)	NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC BYTE

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	35	00:00:00.08	00:00:00.75
Command processing	131	00:00:00.57	00:00:04.17
Pass 1	207	00:00:04.38	00:00:14.66
Symbol table sort	0	00:00:00.68	00:00:01.85
Pass 2	52	00:00:00.84	00:00:02.83
Symbol table output	3	00:00:00.03	00:00:00.03
Psect synopsis output	2	00:00:00.04	00:00:00.32
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	432	00:00:06.62	00:00:24.67

```
The working set limit was 1200 pages.
23328 bytes (46 pages) of virtual memory were used to buffer the intermediate code.
There were 30 pages of symbol table space allocated to hold 460 non-local and 1 local symbols.
174 source lines were read in Pass 1, producing 17 object records in Pass 2.
12 pages of virtual memory were used to define 11 macros.
```

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

Macro library name                        Macros defined
------------------                        --------------
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                         1
_$255$DUA28:[SYSLIB]STARLET.MLB;2                      7
TOTALS (all libraries)                                 8

533 GETS were required to define 8 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:SYSERAPAT/OBJ=OBJ$:SYSERAPAT MSRC$:SYSERAPAT/UPDATE=(ENH$:SYSERAPAT)+EXECML$/LIB
```

SYSGETJPI.LIS

SYSERAPAT.LIS

SYSFAO.LIS

SYSGETDVI.LIS

SYSEXIT.LIS

SYSEVTSRV.LIS

SYSFORCEX.LIS