

|              |     |              |              |     |                  |     |              |     |
|--------------|-----|--------------|--------------|-----|------------------|-----|--------------|-----|
| RRRRRRRRRRRR |     | TTTTTTTTTTTT | PPPPPPPPPPPP |     | AAAAAAAAAA       |     | DDDDDDDDDDDD |     |
| RRRRRRRRRRRR |     | TTTTTTTTTTTT | PPPPPPPPPPPP |     | AAAAAAAAAA       |     | DDDDDDDDDDDD |     |
| RRRRRRRRRRRR |     | TTTTTTTTTTTT | PPPPPPPPPPPP |     | AAAAAAAAAA       |     | DDDDDDDDDDDD |     |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          | PPP | AAA              | AAA | DDD          | DDD |
| RRRRRRRRRRRR |     | TTT          | PPPPPPPPPPPP |     | AAA              | AAA | DDD          | DDD |
| RRRRRRRRRRRR |     | TTT          | PPPPPPPPPPPP |     | AAA              | AAA | DDD          | DDD |
| RRRRRRRRRRRR |     | TTT          | PPPPPPPPPPPP |     | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAAAAAAAAAAAAAAA |     | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAAAAAAAAAAAAAAA |     | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAAAAAAAAAAAAAAA |     | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDD          | DDD |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDDDDDDDDDDD |     |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDDDDDDDDDDD |     |
| RRR          | RRR | TTT          | PPP          |     | AAA              | AAA | DDDDDDDDDDDD |     |

[illegible]

|  |                                                    |
|--|----------------------------------------------------|
|  | CT<br>Ps                                           |
|  | PSI<br>--                                          |
|  | \$A<br>\$\$                                        |
|  | Ph<br>--                                           |
|  | In<br>Co<br>Pa<br>Sy<br>Pa<br>Sy<br>Ps<br>Cr<br>As |
|  | Th<br>67                                           |
|  | Th<br>42                                           |
|  | 13                                                 |
|  | Ma<br>--                                           |
|  | -\$<br>-\$<br>-\$<br>TO                            |
|  | 14                                                 |
|  | Th                                                 |
|  | MA                                                 |



|     |     |                                                      |
|-----|-----|------------------------------------------------------|
| (1) | 61  | DECLARATIONS                                         |
| (2) | 94  | CT_VMS_SETMODE - Packet VMS SET MODE                 |
| (3) | 190 | CT_VMS_SENSEMODE - Packet VMS SENSE MODE             |
| (4) | 261 | CT_VMSQIO MSG - Handle Mode message                  |
| (5) | 364 | SENSE SPAWN Sense for spawn                          |
| (6) | 385 | CT_VMS_BRDCST - Handle upline dump of broadcast text |

```
0000 1 .TITLE CTDVMSPEC - CTDRIVER VMS specific protocol extensions
0000 2 .IDENT 'V04-000'
0000 3 ; *** DEBUG = 1
0000 4 .IF DF DEBUG
0000 5 .PRINT 0 ; CTVMSMODE being assembled WITH debug code
0000 6 .IFF
0000 7 ; *** .PRINT 0 ; CTVMSMODE being assembled WITHOUT debug code
0000 8 .ENDC
0000 9
0000 10 *****
0000 11 *
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0000 29 *
0000 30 *
0000 31 *****
0000 32
0000 33
0000 34 ++
0000 35
0000 36 FACILITY:
0000 37
0000 38 VAX/VMS remote terminal driver
0000 39
0000 40 ABSTRACT:
0000 41
0000 42 This module contains code to format and decode VMS to VMS specific
0000 43 protocol used with the CTERM protocol.
0000 44
0000 45 ENVIRONMENT:
0000 46
0000 47 --
0000 48
0000 49 AUTHOR: Jake VanNoy, CREATION DATE: 30-Dec-1982
0000 50
0000 51 MODIFIED BY:
0000 52
0000 53 V03-002 JLV0290 Jake VanNoy 28-JUL-1983
0000 54 Add upline broadcasts.
0000 55
0000 56 V03-001 JLV0262 Jake VanNoy 26-MAY-1983
0000 57 Add missing branch in post processing.
```



```
0000 58 :
0000 59 : **
0000 60 :
0000 61 : .SBTTL DECLARATIONS
0000 62 :
0000 63 : INCLUDE FILES:
0000 64 :
0000 65 :
0000 66 : $DDBDEF ; device data block
0000 67 : $IRPDEF ; I/O request packet
0000 68 : $TSADEF ; cterm protocol
0000 69 : $TT2DEF ; for DCL bit hacking
0000 70 : $UCBDEF ; unit control block
0000 71 : $TTYUCBDEF ; terminal UCB extension
0000 72 :
0000 73 : MACROS:
0000 74 :
0000 75 :
0000 76 :
0000 77 : EQUATED SYMBOLS:
0000 78 :
0000 79 :
00000000 0000 80 P1 = 0
00000004 0000 81 P2 = 4
00000008 0000 82 P3 = 8
0000000C 0000 83 P4 = 12
00000010 0000 84 P5 = 16
00000014 0000 85 P6 = 20
0000 86 :
00000000 0000 87 : .PSECT $$$115_DRIVER, LONG
0000 88 :
0000 89 :
0000 90 : OWN STORAGE:
0000 91 :
0000 92 :
```

```
0000 94 .SBTTL CT_VMS_SETMODE - Packet VMS SET MODE
0000 95
0000 96 :++
0000 97
0000 98 FUNCTIONAL DESCRIPTION:
0000 99
0000 100 A mode message #10 is formatted with generic QIO format.
0000 101
0000 102 CALLING SEQUENCE:
0000 103 BSBW CT_VMS_SETMODE
0000 104
0000 105 INPUT PARAMETERS:
0000 106
0000 107 R1 - address of characteristics buffer
0000 108 R2 - length of characteristics buffer (8 or 12)
0000 109 R3 - IRP
0000 110 R5 - UCB
0000 111
0000 112 IMPLICIT INPUTS:
0000 113 NONE
0000 114
0000 115 OUTPUT PARAMETERS:
0000 116
0000 117 R2 - address of byte after message
0000 118
0000 119 IMPLICIT OUTPUTS:
0000 120 NONE
0000 121
0000 122 COMPLETION CODES:
0000 123 NONE
0000 124
0000 125 SIDE EFFECTS:
0000 126 NONE
0000 127
0000 128 :--
0000 129
0000 130 CT_VMS_SETMODE::
0000 131
51 59 51 7D 0000 132 MOVQ R1,R9 ; Move R1,R2 to R9,R10
00000064 8F D0 0003 133 MOVL #<CTPSW_VMS_PLEN+<5*6+4>>>,R1 ; overhead size
51 5A C0 000A 134 ADDL R10,R1 ; plus 8 or 12
FFF0' 30 000D 135 BSBW FDT_ALLOC_MESSAGE ; Get a CTP
0010 136
0010 137 MOVZBW #PROSC DATA,-
26 A2 9B 0012 138 CTPSB PRO MSGTYPE(R2) ; Set mode message
OF 9B 0014 139 MOVZBW #CTPSB_MT_VMSQIO,-
2A A2 90 0016 140 CTPSB MSGTYPE(R2) ; Set VAX generic qio message
OF 90 0018 141 MOVB #CTPSB_MT_VMSQIO,-
0000'C3 001A 142 IRPSB CT RESPTYPE(R3) ; Mark as VMS QIO message
50 A3 D0 001D 143 MOVL IRPSL_SEQNUM(R3),-
2C A2 D0 0020 144 CTPSL_VMS_REQID(R2) ; Set response from server
38 A3 D4 0022 145 CLRL IRPSL_MEDIA(R3) ; but no return data address (IOSB only)
20 A3 B0 0025 146 MOVW IRPSW_FUNC(R3),-
30 A2 0028 147 CTPSW_VMS_FUNC(R2) ; Set qio function code
50 32 A2 9E 002A 148 MOVAB CTPSW_VMS_PLEN(R2),R0 ; Address of first parameter
002E 149
002E 150 ; Do P1
```



```

      80 5A B0 002E 151
      80 01 B0 002E 152
      80 01 B0 0031 153
      80 01 B0 0034 154
      80 69 7D 0037 155
40  A5 89 7D 003A 156
   5A 0C D1 003E 157
      07 12 0041 158
      80 69 D0 0043 159
48  A5 69 D0 0046 160
      004A 161 20$:
      004A 162
      004A 163
      004A 164
      80 04 D0 004A 165
      80 02 B0 004D 166
      80 5A D0 0050 167
      0053 168
      0053 169
      0053 170
      80 04 D0 0053 171
      80 03 B0 0056 172
80  08 AC D0 0059 173
      005D 174
      005D 175
      005D 176
      80 04 D0 005D 177
      80 04 B0 0060 178
80  0C AC D0 0063 179
      0067 180
      0067 181
      0067 182
      80 04 D0 0067 183
      80 05 B0 006A 184
80  10 AC D0 006D 185
      0071 186
      52 50 D0 0071 187
      05 0074 188

;
MOVW R10,(R0)+ ; Length
MOVW #CTPSM_VMS_REF,(R0)+ ; Pass by reference
MOVW #1,(R0)+ ; P1
MOVQ (R9),(R0)+ ; first 8 bytes
MOVQ (R9)+,UCBSB_DEVCLASS(R5); copy into UCB
CMPL #12,R10 ; Is there 12?
BNEQ 20$ ; Branch if not
MOVL (R9),(R0)+ ; Last 4 bytes
MOVL (R9),UCBSL_DEVDEPND2(R5); copy into UCB

; Do P2
MOVL #4,(R0)+ ; Length
MOVW #2,(R0)+ ; P2
MOVL R10,(R0)+ ; 8 or 12

; Do P3
MOVL #4,(R0)+ ; Length
MOVW #3,(R0)+ ; P3
MOVL P3(AP),(R0)+ ; parameter

; Do P4
MOVL #4,(R0)+ ; Length
MOVW #4,(R0)+ ; P4
MOVL P4(AP),(R0)+ ; parameter

; Do P5
MOVL #4,(R0)+ ; Length
MOVW #5,(R0)+ ; P5
MOVL P5(AP),(R0)+ ; parameter

MOVL R0,R2 ; Set address of next byte
RSB ; return
```

```
0075 190 .SBTTL CT_VMS_SENSEMODE - Packet VMS SENSE MODE
0075 191
0075 192 :++
0075 193 :
0075 194 : FUNCTIONAL DESCRIPTION:
0075 195 :
0075 196 : A VMS specific cterm message is formatted with generic QIO format.
0075 197 :
0075 198 : CALLING SEQUENCE:
0075 199 : BSBW CT_VMS_SENSEMODE
0075 200 :
0075 201 : INPUT PARAMETERS:
0075 202 :
0075 203 : R1 - address of characteristics buffer
0075 204 : R2 - length of characteristics buffer (8 or 12)
0075 205 : R3 - IRP
0075 206 : R5 - UCB
0075 207 :
0075 208 : IMPLICIT INPUTS:
0075 209 : NONE
0075 210 :
0075 211 : OUTPUT PARAMETERS:
0075 212 :
0075 213 : R2 - address of byte after message
0075 214 :
0075 215 : IMPLICIT OUTPUTS:
0075 216 : NONE
0075 217 :
0075 218 : COMPLETION CODES:
0075 219 : NONE
0075 220 :
0075 221 : SIDE EFFECTS:
0075 222 : NONE
0075 223 :
0075 224 :--
0075 225
0075 226 CT_VMS_SENSEMODE::
0075 227
51 00000046 59 51 7D 0075 228 MOVQ R1,R9 ; Move R1,R2 to R9,R10
51 00000046 51 5A C0 0078 229 MOVL #<CTPSW_VMS_PLEN+<2*<6+4>>>,R1 ; overhead size
51 FF7B' 30 007F 230 ADDL R10,R1 ; plus 8 or 12
0082 231 BSBW FDT_ALLOC_MESSAGE ; Get a CTP
0085 232
0085 233 MOVZBW #PROSC_DATA,-
0087 234 CTPSB_PRO_MSGTYPE(R2) ; Set mode message
0089 235 MOVZBW #CTPSC_MT_VMSQIO,-
008B 236 CTPSB_MSGTYPE(R2) ; Set VAX generic qio message
008D 237 MOV B #CTPSC_MT_VMSQIO,-
008F 238 IRPSB_CT_RESPTYPE(R3) ; Mark as VMS QIO message
0092 239 MOVL IRPSL_SEQNUM(R3),-
0095 240 CTPSL_VMS_REQID(R2) ; Set response from server
0097 241 MOVW IRPSW_FUNC(R3),-
009A 242 CTPSW_VMS_FUNC(R2) ; Set qio function code
50 32 A2 9E 009C 243 MOVAB CTPSW_VMS_PLEN(R2),R0 ; Address of first parameter
00A0 244
00A0 245 ; Do P1
00A0 246 ;
```



|    |    |    |      |     |      |                          |                                          |
|----|----|----|------|-----|------|--------------------------|------------------------------------------|
| 80 | 5A | B0 | 00A0 | 247 | MOVW | R10,(R0)+                | ; Length (not used in RTPAD***)          |
| 80 | 04 | B0 | 00A3 | 248 | MOVW | #CTP\$M_VMS_BUFFER,(R0)+ | ; Generate buffer in server, return data |
| 80 | 01 | B0 | 00A6 | 249 | MOVW | #1,(R0)+                 | ; P1                                     |
|    |    |    | 00A9 | 250 |      |                          | ; null data region                       |
|    |    |    | 00A9 | 251 |      |                          |                                          |
|    |    |    | 00A9 | 252 | :    | Do P2                    |                                          |
|    |    |    | 00A9 | 253 | :    |                          |                                          |
| 80 | 04 | D0 | 00A9 | 254 | MOVL | #4,(R0)+                 | ; Length                                 |
| 80 | 02 | B0 | 00AC | 255 | MOVW | #2,(R0)+                 | ; P2                                     |
| 80 | 5A | D0 | 00AF | 256 | MOVL | R10,(R0)+                | ; 8 or 12                                |
|    |    |    | 00B2 | 257 |      |                          |                                          |
| 52 | 50 | D0 | 00B2 | 258 | MOVL | R0,R2                    | ; Set address of next byte               |
|    |    | 05 | 00B5 | 259 | RSB  |                          | ; return                                 |

```
00B6 261 .SBTTL CT_VMSQIO_MSG - Handle Mode message
00B6 262
00B6 263 :++
00B6 264 :
00B6 265 : FUNCTIONAL DESCRIPTION:
00B6 266 :
00B6 267 :
00B6 268 :
00B6 269 : CALLING SEQUENCE:
00B6 270 :
00B6 271 : BSBW CT_VMSQIO_MSG
00B6 272 :
00B6 273 : INPUT PARAMETERS:
00B6 274 :
00B6 275 : R1 - CTP
00B6 276 : R3 - Net read IIRP
00B6 277 : R5 - CT UCB
00B6 278 :
00B6 279 : IMPLICIT INPUTS:
00B6 280 : NONE
00B6 281 :
00B6 282 : OUTPUT PARAMETERS:
00B6 283 : NONE
00B6 284 :
00B6 285 : IMPLICIT OUTPUTS:
00B6 286 : NONE
00B6 287 :
00B6 288 : COMPLETION CODES:
00B6 289 : NONE
00B6 290 :
00B6 291 : SIDE EFFECTS:
00B6 292 : NONE
00B6 293 :
00B6 294 : --
00B6 295 :
00B6 296 :
00B6 297 : ??? IRP queue is assumed to be in order for reads, characteristics,
00B6 298 : ??? and input counts. All these packets have the FUNC bit set in the
00B6 299 : ??? queued IRP. The write packets can complete asynchronously to all
00B6 300 : ??? these other types, and they do not have the FUNC bit set. Search
00B6 301 : ??? for the associated IRP:
00B6 302 :
00B6 303 :
00B6 304 MODE_ERR:
50 D4 00B6 305 CLRL R0 ; return error here... (**new 8-jun-83)
05 00B8 306 RSB
00B9 307
00B9 308 CT_VMSQIO_MSG::
00B9 309
54 00B8 C5 7E 00B9 310 MOVAQ UCB$$_RTT_IRPFL(R5),R4 ; Look through the irps for ours
50 54 D0 00BE 311 MOVL R4,R0 ; head of queue here
54 64 D0 00C1 312
50 54 D1 00C4 313 30$: MOVL (R4),R4 ; Link through chain
ED 13 00C7 314 CMPL R4,R0 ; end of irps?
00C9 315 BEQL MODE_ERR ; Yes, could not find it, hangup
0000'C4 0F 91 00C9 316
00C9 317 CMPB #CTP$C_MT_VMSQIO, -
```



```
00CE 318 IRPSB_CT_RESPTYPE(R4) ; Does it match?
2C F1 12 00CE 319 BNEQ 30$ ; Branch if no
A1 D1 00D0 320 CMPL CTPSL_VMS_REQID(R1),-
50 A4 00D3 321 IRPSL_SEQNUM(R4) ; Sequence number match?
EA 12 00D5 322 BNEQ 30$ ; Loop if not
00D7 323
00D7 324 ; A match has been found
00D7 325
2C A3 D4 00D7 326 CLRL IRPSL_SVAPTE(R3) ; Buffer not in net iirp now
32 A3 B0 00DA 327 MOVW IRPSW_BCNT(R3),-
3C A4 00DD 328 IRPSL_IOST2(R4) ; Set size of buffer read from net
53 64 0F 00DF 329 REMQUE (R4),R3 ; Remove the CT irp from queue
2C A3 52 D0 00E2 330 MOVL R2,IRPSL_SVAPTE(R3) ; stick buffer there
00E6 331
00E6 332 ; Function as "interrupt routine"
00E6 333
0200 8F A8 00E6 334 BISW #IRPSM_TERMIO,- ; Set terminal I/O
2A A3 00EA 335 IRPSW_STS(R3) ; User buffer return address
54 38 A3 D0 00EC 336 MOVL IRPSL_MEDIA(R3),R4 ; Branch if no data (IOSB only)
08 13 00F0 337 BEQL 50$ ; Set address of data
62 38 A1 9E 00F2 338 MOVAB CTPST_VMS_RDATA(R1),(R2) ; Set user address to return data
04 A2 54 D0 00F6 339 MOVL R4,4(R2)
00FA 340 50$:
00FA 341
00FA 342 ; Set IRPSW_BCNT
00FA 343
50 3C A3 3C 00FA 344 MOVZWL IRPSL_IOST2(R3),R0 ; Set size of buffer read from net
50 12 C2 00FE 345 SUBL2 #<CTPST_VMS_RDATA- ; Subtract out header size
0101 346 CTPSB_PRO_MSGTYPE>,R0 ; Compare to user buffer size
32 A3 50 B1 0101 347 CMPW R0,IRPSW_BCNT(R3) ; If greater, leave user size
04 1A 0105 348 BGTRU 80$ ; Set return size
32 A3 50 B0 0107 349 MOVW R0,IRPSW_BCNT(R3)
010B 350 80$:
30 A1 7D 010B 351 MOVQ CTPSQ_VMS_IOSB(R1),- ; Copy IOSB
38 A3 010E 352 IRPSL_IOST1(R3)
0110 353
06 00 ED 0110 354 CMPZV #IRPSV_FCODE,#IRPSS_FCODE,- ; sense mode qio?
00000000'8F 20 A3 0113 355 IRPSW_FUNC(R3),#IOS_SENSEMODE ; branch if not
02 12 011A 356 BNEQ 90$ ; Set DCL bits ***
0A 10 011C 357 BSBB SENSE_SPAWN
011E 358 90$:
00000000'GF 16 011E 359 JSB G^COM$POST ; POST I/O
50 01 D0 0124 360 MOVL #1,R0 ; success
05 0127 361 RSB ; return to FOUNDATION message code
0128 362
```

```
0128 364 .SBTTL SENSE_SPAWN Sense for spawn
0128 365
0128 366 : Sense special characteristics bits for DCL spawn command.
0128 367 : Return bits for ctrl/c ast, outofband ast and associated mailbox.
0128 368 : These bits may be reused later and are not for customer application
0128 369 : consumption.
0128 370 :
0128 371 : inputs:
0128 372 : r1 -> CTP
0128 373 :
0128 374 :
0128 375 SENSE_SPAWN:
50 40 A1 9E 0128 376 MOVAB CTP$T_VMS_RDATA+8(R1),R0 ; Set address of data
012C 377
60 0200 8F AA 012C 378 BICW #TT2$M_DCL_MAILBX,(R0) ; Reset mailbox bit
60 60 A5 D5 0131 379 TSTL UCB$L_AMB(R5) ; Any associated mailbox?
05 13 0134 380 BEQL 10$ ; No
60 0200 8F A8 0136 381 BISW #TT2$M_DCL_MAILBX,(R0) ; Yes, so set characteristic
05 013B 382 10$:
013B 383 RSB
```



```
013C 385 .SBTTL CT_VMS_BRDCST - Handle upline dump of broadcast text
013C 386 :+
013C 387 : CT_VMS_BRDCST -
013C 388 :
013C 389 : Deliver broadcast message to the mailbox.
013C 390 :
013C 391 : If RTPAD receives a broadcast message in it's mailbox, it dumps it up
013C 392 : to the remote terminal and it gets here for delivery to the real
013C 393 : application broadcast mailbox.
013C 394 :
013C 395 : The unit number and name of the device is fixed up in the packet first.
013C 396 :
013C 397 :-
013C 398
013C 399 CT_VMS_BRDCST::
013C 400
38 48 A5 04 E1 013C 401 BBC #TT2$V BRDCSTMBX, - ; If we are allowing mailbox
0141 402 UCB$L_DEVDEPND2(R5),10$ ; to receive the messages
60 A5 D5 0141 403 TSTL UCB$L_AMB(R5) ; and we have a mailbox
33 13 0144 404 BEQL 10$ ; Nope
2F A1 54 A5 B0 0146 405 MOVW UCB$W_UNIT(R5), - ; Then fix the unit number
014B 406 CTP$W_BR UNITNUM(R1) ; in the message
50 14 A2 52 28 A5 D0 014B 407 MOVL UCB$L_DDB(R5), R2 ; and get the proper name of
014F 408 EXTZV #0, #4, DDB$T_NAME(R2), R0 ; this device for the message
50 D6 0155 409 INCL R0 ; including the count
0157 410
31 A1 10 00 14 A2 3F BB 0157 411 PUSHR #^M<R0, R1, R2, R3, R4, R5> ; Copy the new name and
0159 412 MOVCS R0, DDB$T_NAME(R2), #0, - ; clobber the remainder of the
0161 413 #CTP$S_BR_DEVNAME, - ; stuff in the fixed length
0161 414 CTP$T_BR_DEVNAME(R1) ; field
3F BA 0161 415 POPR #^M<R0, R1, R2, R3, R4, R5> ; restore the regs
0163 416
53 28 A1 38 BB 0163 417 PUSHR #^M<R3, R4, R5> ; Save a few
0165 418 MOVZWL CTP$W_MSGSIZE(R1), R3 ; Size of the message
54 2D A1 9E 0169 419 MOVAB CTP$W_BR MSGCODE(R1), R4 ; Address of the message
55 60 A5 D0 016D 420 MOVL UCB$L_AMB(R5), R5 ; Mailbox ucb address
00000000 GF 16 0171 421 JSB G^EXE$WRTMAILBOX ; Write the message to it
38 BA 0177 422 POPR #^M<R3, R4, R5> ; and ignore the errors
0179 423
05 0179 424 10$: RSB
017A 425
017A 426 .END
```



CTDVMSPEC  
Symbol table

- CTDRIVER VMS specific protocol extensi 16-SEP-1984 02:25:27 VAX/VMS Macro V04-00 Page 11  
5-SEP-1984 03:14:43 [RTPAD.SRC]CTDVMSPEC.MAR;1 (6)

|                    |            |    |    |
|--------------------|------------|----|----|
| COM\$POST          | *****      | X  | 02 |
| CTP\$B_MSGTYPE     | = 0000002A |    |    |
| CTP\$B_PRO MSGTYPE | = 00000026 |    |    |
| CTP\$C_MT_VMSQIO   | = 0000000F |    |    |
| CTP\$L_VMS_REQID   | = 0000002C |    |    |
| CTP\$M_VMS_BUFFER  | = 00000004 |    |    |
| CTP\$M_VMS_REF     | = 00000001 |    |    |
| CTP\$Q_VMS_IOSB    | = 00000030 |    |    |
| CTP\$S_BR_DEVNAME  | = 00000010 |    |    |
| CTP\$T_BR_DEVNAME  | = 00000031 |    |    |
| CTP\$T_VMS_RDATA   | = 00000038 |    |    |
| CTP\$W_BR_MSGCODE  | = 0000002D |    |    |
| CTP\$W_BR_UNITNUM  | = 0000002F |    |    |
| CTP\$W_MSGSIZE     | = 00000028 |    |    |
| CTP\$W_VMS_FUNC    | = 00000030 |    |    |
| CTP\$W_VMS_PLEN    | = 00000032 |    |    |
| CT_VMSQIO_MSG      | 000000B9   | RG | 02 |
| CT_VMS_BRDCST      | 0000013C   | RG | 02 |
| CT_VMS_SENSEMODE   | 00000075   | RG | 02 |
| CT_VMS_SETMODE     | 00000000   | RG | 02 |
| DD\$ST_NAME        | = 00000014 |    |    |
| EX\$SWRTMAILBOX    | *****      | X  | 02 |
| FDT_ALLOC MESSAGE  | *****      | X  | 02 |
| IOS_SENSEMODE      | *****      | X  | 02 |
| IRP\$B_CT_RESPTYPE | *****      | X  | 02 |
| IRP\$L_IOST1       | = 00000038 |    |    |
| IRP\$L_IOST2       | = 0000003C |    |    |
| IRP\$L_MEDIA       | = 00000038 |    |    |
| IRP\$L_SEQNUM      | = 00000050 |    |    |
| IRP\$L_SVAPTE      | = 0000002C |    |    |
| IRP\$M_TERMIO      | = 00000200 |    |    |
| IRP\$S_FCODE       | = 00000006 |    |    |
| IRP\$V_FCODE       | = 00000000 |    |    |
| IRP\$W_BCNT        | = 00000032 |    |    |
| IRP\$W_FUNC        | = 00000020 |    |    |
| IRP\$W_STS         | = 0000002A |    |    |
| MODE_ERR           | 000000B6   | R  | 02 |
| P1                 | = 00000000 |    |    |
| P2                 | = 00000004 |    |    |
| P3                 | = 00000008 |    |    |
| P4                 | = 0000000C |    |    |
| P5                 | = 00000010 |    |    |
| P6                 | = 00000014 |    |    |
| PRO\$C_DATA        | = 00000009 |    |    |
| SENSE_SPAWN        | 00000128   | R  | 02 |
| TT2\$M_DCL_MAILBX  | = 00000200 |    |    |
| TT2\$V_BRDCSTMBX   | = 00000004 |    |    |
| UCB\$B_DEVCLASS    | = 00000040 |    |    |
| UCB\$L_AMB         | = 00000060 |    |    |
| UCB\$L_DDB         | = 00000028 |    |    |
| UCB\$L_DEVDEPND2   | = 00000048 |    |    |
| UCB\$L_RTT_IRPFL   | = 000000B8 |    |    |
| UCB\$W_UNIT        | = 00000054 |    |    |



+-----+  
! 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       |
| \$\$\$115_DRIVER | 0000017A ( 378.) | 02 ( 2.)  | NOPIC USR CON REL LCL NOSHR EXE RD WRT NOVEC LONG       |

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

| Phase                  | Page faults | CPU Time    | Elapsed Time |
|------------------------|-------------|-------------|--------------|
| Initialization         | 29          | 00:00:00.06 | 00:00:00.37  |
| Command processing     | 129         | 00:00:00.50 | 00:00:03.75  |
| Pass 1                 | 369         | 00:00:08.04 | 00:00:27.93  |
| Symbol table sort      | 0           | 00:00:01.44 | 00:00:03.29  |
| Pass 2                 | 79          | 00:00:01.57 | 00:00:03.74  |
| Symbol table output    | 7           | 00:00:00.06 | 00:00:00.06  |
| Psect synopsis output  | 2           | 00:00:00.02 | 00:00:00.02  |
| Cross-reference output | 0           | 00:00:00.00 | 00:00:00.00  |
| Assembler run totals   | 617         | 00:00:11.69 | 00:00:39.17  |

The working set limit was 1500 pages.

67161 bytes (132 pages) of virtual memory were used to buffer the intermediate code.

There were 80 pages of symbol table space allocated to hold 1350 non-local and 7 local symbols.

426 source lines were read in Pass 1, producing 14 object records in Pass 2.

13 pages of virtual memory were used to define 12 macros.

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

| Macro library name                   | Macros defined |
|--------------------------------------|----------------|
| -\$255\$DUA28:[SHRLIB]REM.MLB;1      | 0              |
| -\$255\$DUA28:[RTPAD.OBJ]RTPAD.MLB;1 | 1              |
| -\$255\$DUA28:[SYS.OBJ]LIB.MLB;1     | 4              |
| -\$255\$DUA28:[SYSLIB]STARLET.MLB;2  | 4              |
| TOTALS (all libraries)               | 9              |

1412 GETS were required to define 9 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LISS:CTDVMSPEC/OBJ=OBJ\$:CTDVMSPEC MSRC\$:CTDVMSPEC/UPDATE=(ENH\$:CTDVMSPEC)+EXECML\$/LIB+LIB\$:RTPAD/LIB+SHRLIB\$:REM/LIB



0333 AH-BT13A-SE  
VAX/VMS V4.0

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