


```

NN      NN      CCCCCCCC  PPPPPPPP  SSSSSSSS  TTTTTTTTTT  AAAAAA  ZZZZZZZZZZ  EEEEEEEEEE  RRRRRRRR
NN      NN      CCCCCCCC  PPPPPPPP  SSSSSSSS  TTTTTTTTTT  AAAAAA  ZZZZZZZZZZ  EEEEEEEEEE  RRRRRRRR
NN      NN      CC          PP        PP  SS          TT          AA        AA        ZZ          EE          RR        RR
NN      NN      CC          PP        PP  SS          TT          AA        AA        ZZ          EE          RR        RR
NNNN    NN      CC          PP        PP  SS          TT          AA        AA        ZZ          EE          RR        RR
NNNN    NN      CC          PP        PP  SS          TT          AA        AA        ZZ          EE          RR        RR
NN      NN      CC          PPPPPPPP  SSSSSS    TT          AA        AA        ZZ          EEEEEEEE  RRRRRRRR
NN      NN      CC          PPPPPPPP  SSSSSS    TT          AA        AA        ZZ          EEEEEEEE  RRRRRRRR
NN      NN      CC          PP          SS          TT          AAAAAAAAAA  ZZ          EE          RR        RR
NN      NN      CC          PP          SS          TT          AAAAAAAAAA  ZZ          EE          RR        RR
NN      NN      CC          PP          SS          TT          AA        AA        ZZ          EE          RR        RR
NN      NN      CC          PP          SS          TT          AA        AA        ZZ          EE          RR        RR
NN      NN      CCCCCCCC  PP          SSSSSSSS  TT          AA        AA        ZZZZZZZZZZ  EEEEEEEEEE  RR        RR
NN      NN      CCCCCCCC  PP          SSSSSSSS  TT          AA        AA        ZZZZZZZZZZ  EEEEEEEEEE  RR        RR

```

```

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

```

.....

....
....
....
....

```

1 0001 0 XTITLE 'Zero Parse States and Data'
2 0002 0 MODULE NCPSTAZER (IDENT = 'V04-000', LIST(NOOBJECT)) =
3 0003 1 BEGIN
4 0004 1
5 0005 1
6 0006 1 *****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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24 0024 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
25 0025 1 *
26 0026 1 *
27 0027 1 *****
28 0028 1
29 0029 1
30 0030 1 ++
31 0031 1 FACILITY: Network Control Program (NCP)
32 0032 1
33 0033 1 ABSTRACT:
34 0034 1
35 0035 1 States and data for the parsing of NCP zero commands
36 0036 1
37 0037 1 ENVIRONMENT: VAX/VMS Operating System
38 0038 1
39 0039 1 AUTHOR: Darrell Duffy , CREATION DATE: 25-September-79
40 0040 1
41 0041 1 MODIFIED BY:
42 0042 1
43 0043 1 V03-003 RPG0003 Bob Grosso 09-Nov-1982
44 0044 1 Accept just ZERO X25-PROT without DTE or K DTE.
45 0045 1
46 0046 1 V03-002 RPG0002 Bob Grosso 07-Sep-1982
47 0047 1 Break up into several PCLs and supply an SDB for
48 0048 1 each entity type to facilitate correct error reporting
49 0049 1 of entity type. Also correct Zero Module X25-Protocol
50 0050 1 and accept Module X25-Server and X29-Server.
51 0051 1
52 0052 1 V03-001 RPG0001 Bob Grosso 03-Aug-1982
53 0053 1 Add ZERO MODULE X25-PROTOCOL
54 0054 1
55 0055 1 V001 TMH0001 Tim Halvorsen 22-Jun-1981
56 0056 1 Change BUILD_SDB reference to use full entity type field.
57 0057 1 Change to zero circuit as well as line and node.

```

NCPSTAZER
V04-000

Zero Parse States and Data

; 58

0058 1 !--

K 10
16-Sep-1984 01:47:08
14-Sep-1984 12:48:33

YAX-11 Bliss-32 V4.0-742
[NCP.SRC]NCPSTAZER.B32;1

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NCI
VO

⋮

```
.. 60 0059 1 %SBTTL 'Definitions'  
.. 61 0060 1  
.. 62 0061 1  
.. 63 0062 1 : INCLUDE FILES:  
.. 64 0063 1 :  
.. 65 0064 1 :  
.. 66 0065 1 LIBRARY 'LIBS:NMALIBRY';  
.. 67 0066 1 LIBRARY 'LIBS:NCPLIBRY';  
.. 68 0067 1 LIBRARY 'SYSSLIBRARY:TPAMAC';  
.. 69 0068 1  
.. 70 0069 1 :  
.. 71 0070 1 : EXTERNAL REFERENCES:  
.. 72 0071 1 :  
.. 73 0072 1 :  
.. 74 0073 1 ACT_DFN
```

! External symbols for action routines

```
76 0074 1 %SBTTL 'Parameter blocks'
77 0075 1
78 0076 1
79 0077 1 BIND DATA:
80 0078 1
81 0079 1
82 0080 1
83 0081 1 Parameter Blocks
84 0082 1
85 0083 1
86 0084 1
87 0085 1 General use for entities which do not take parameters
88 0086 1
89 0087 1
90 P 0088 1 BUILD_PCL
91 P P 0089 1
92 P P P 0090 1 (ZER,
93 P P P 0091 1 , END, . .
94 P P P 0092 1 )
95 P 0093 1
96 0094 1
97 0095 1
98 P 0096 1 BUILD_PBK
99 P P P 0097 1
100 P P P 0098 1 (ZER,
101 P P P 0099 1
102 P P P 0100 1 EXE, LITL, O, VRB ENT,
103 P P P 0101 1 CIR, TKN, , VRB ENT,
104 P P P 0102 1 LIN, TKN, , VRB ENT,
105 P P P 0103 1 MOD, TKN, , VRB ENT,
106 P P P 0104 1 NOD, NADR, , VRB ENT,
107 P P P 0105 1 KNO, LITB, NMASC_ENT_KNO, VRB ENT,
108 P 0106 1 )
109 0107 1
110 0108 1
111 P 0109 1 BUILD_SDB
112 P 0110 1
113 0111 1 (ZCI, NMASC_ENT_CIR, VRB_ENT, ZER)
114 0112 1
115 0113 1
116 P 0114 1 BUILD_SDB
117 P 0115 1
118 0116 1 (ZLI, NMASC_ENT_LIN, VRB_ENT, ZER)
119 0117 1
120 0118 1
121 P 0119 1 BUILD_SDB
122 P 0120 1
123 0121 1 (ZMO, NMASC_ENT_MOD, VRB_ENT, ZER)
124 0122 1
125 0123 1
126 P 0124 1 BUILD_SDB
127 P 0125 1
128 0126 1 (ZNO, NMASC_ENT_NOD, VRB_ENT, ZER)
129 0127 1
```

```
.. 131 0128 1 | :  
.. 132 0129 1 | : ZERO X25-Protocol  
.. 133 0130 1 | :  
.. 134 0131 1 | :  
.. 135 P 0132 1 | : BUILD_PCL  
.. 136 P 0133 1 | : (ZPR,  
.. 137 P 0134 1 | :  
.. 138 P 0135 1 | : DTE, TKN, PCXP_DTE, ,  
.. 139 P 0136 1 | :  
.. 140 P 0137 1 | :  
.. 141 P 0138 1 | : } END. . .  
.. 142 0139 1 | :  
.. 143 0140 1 | :  
.. 144 P 0141 1 | : BUILD_PBK  
.. 145 P 0142 1 | : (ZPR,  
.. 146 P 0143 1 | :  
.. 147 P 0144 1 | :  
.. 148 P 0145 1 | : DTE, TKN,  
.. 149 P 0146 1 | : KDT, LITB, NMASC_ENT_KNO, ZPR_DTE, ! Known DTEs  
.. 150 0147 1 | : )  
.. 151 0148 1 | :  
.. 152 0149 1 BIND PDB$G_ZPR_ENT = UPLIT BYTE (0, %ASCIC 'X25-PROTOCOL');  
.. 153 0150 1 | :  
.. 154 P 0151 1 | : BUILD_SDB  
.. 155 P 0152 1 | : (ZPR, NMASC_ENT_MOD, ZPR_ENT, ZPR)  
.. 156 0153 1 | :  
.. 157 0154 1 | :  
.. 158 0155 1 | :  
.. 159 0156 1 | :  
.. 160 0157 1 | : : MODULE X25-SERVER  
.. 161 0158 1 | : :  
.. 162 0159 1 | : :  
.. 163 0160 1 BIND PDB$G_ZSE_ENT = UPLIT BYTE (0, %ASCIC 'X25-SERVER');  
.. 164 P 0161 1 | :  
.. 165 P 0162 1 | : BUILD_SDB  
.. 166 P 0163 1 | : (ZSE, NMASC_ENT_MOD, ZSE_ENT, ZER)  
.. 167 0164 1 | :  
.. 168 0165 1 | :  
.. 169 0166 1 | :  
.. 170 0167 1 | : : MODULE X29-SERVER  
.. 171 0168 1 | : :  
.. 172 0169 1 | : :  
.. 173 0170 1 | : :  
.. 174 0171 1 BIND PDB$G_Z9S_ENT = UPLIT BYTE (0, %ASCIC 'X29-SERVER');  
.. 175 P 0172 1 | :  
.. 176 P 0173 1 | : BUILD_SDB  
.. 177 P 0174 1 | : (Z9S, NMASC_ENT_MOD, Z9S_ENT, ZER)  
.. 178 0175 1 | :
```

```
180 0176 1 %SBTTL 'Prompt strings'
181 0177 1
182 0178 1
183 0179 1
184 0180 1
185 0181 1
186 0182 1 BIND
187 0183 1
188 P 0184 1 PROMPT_STRINGS
189 PP 0185 1 (ZER,
190 PP 0186 1
191 L 0187 1 ENT, %STRING(
192 L 0188 1 (EXECUTOR, CIRCUIT circuit-name, LINE line-id,', CRLF,
193 P 0189 1 MODULE module-name, NODE node-id, KNOWN): '),
194 P 0190 1 CIR, 'Circuit to zero (circuit-name): ',
195 P 0191 1 LIN, 'Line to zero (dev-c-u.t): ',
196 P 0192 1 MOD, 'Module to zero (X25-PROTOCOL, X25-SERVER, X29-SERVER): ',
197 P 0193 1 NOD, 'Node to zero (node-name, address): ',
198 P 0194 1 KWN, ' (CIRCUITS, LINES, MODULES, NODES): ',
199 P 0195 1
200 0196 2 )
201 0197 1
202 0198 1
203 P 0199 1 PROMPT_STRINGS
204 PP 0200 1 (ZPR,
205 PP 0201 1
206 P 0202 1 DAT, '(DTE dte-name, KNOWN DTES): ',
207 P 0203 1
208 0204 2 )
209 0205 1
210 0206 1
```



```

: 212 0207 1 %SBTTL 'State Table Entry'
: 213 0208 1
: 214 0209 1 $INIT_STATE (NCP$G_STTBL_ZER, NCP$G_KYTBL_ZER);
: 215 0210 1
: 216 0211 1
: 217 0212 1 Zero Command
: 218 0213 1
: 219 0214 1
: 220 0215 1
: 221 0216 1 Dispatch to entity types and prompt if end of string
: 222 0217 1
: 223 0218 1
: 224 P 0219 1 COMMAND PROMPT
: 225 P P 0220 1 (ZER, ENT, NCP$ _INVKEY,
: 226 P P 0221 1
: 227 P P 0222 1 ('EXECUTOR', ST_ZNO_DOIT, ACT$SAVPRM, , , PBK$G_ZER_EXE),
: 228 P P 0223 1 ('KNOWN', ST_ZER_KWN, ACT$SAVPRM, , , PBK$G_ZER_KNOT),
: 229 P P 0224 1 ('CIRCUIT', ST_ZER_CIR),
: 230 P P 0225 1 ('LINE', ST_ZER_LIN),
: 231 P P 0226 1 ('MODULE', ST_ZER_MOD),
: 232 P P 0227 1 ('NODE', ST_ZER_NOD),
: 233 P P 0228 1 ('X25', ST_ZER_X25),
: 234 P P 0229 1 ('X29', ST_ZER_X29)
: 235 P 0230 1
: 236 0231 1 )
: 237 0232 1
: 238 0233 1
: 239 0234 1 Obtain the circuit to zero
: 240 0235 1
: 241 0236 1
: 242 P 0237 1 COMMAND PROMPT
: 243 P P 0238 1 (ZER, CIR, NCP$ _INVVAL,
: 244 P P 0239 1
: 245 P P 0240 1 ( (SE_CIRC_ID), ST_ZCI_DOIT, ACT$SAVPRM, NMACC_ENT_CIR,
: 246 P 0241 1 NCP$GL_OPTION, PBK$G_ZER_CIR)
: 247 P 0242 1
: 248 0243 1 )
: 249 0244 1
: 250 0245 1 Perform the function after ignoring noise words
: 251 0246 1
: 252 0247 1
: 253 P 0248 1 $STATE (ST_ZCI_DOIT,
: 254 P P 0249 1 ('COUNTERS'),
: 255 P 0250 1 (TPAS_LAMBDA)
: 256 0251 1 );
: 257 0252 1
: 258 P 0253 1 $STATE (
: 259 P 0254 1 (TPAS_LAMBDA, , ACT$SAVPRM, , , PBK$G_VRB_ALL)
: 260 0255 1 );
: 261 0256 1
: 262 P 0257 1 $STATE (
: 263 P 0258 1 (TPAS_EOS, TPAS_EXIT, ACT$VRB_UTILITY, , , SDB$G_ZCI)
: 264 0259 1 );

```



```
.. 294      0287  1  |
.. 295      0288  1  |      Obtain the module to zero
.. 296      0289  1  |
.. 297      0290  1  |
.. 298      P 0291  1  $STATE (ST_ZER_MOD,
.. 299      P 0292  1  ('X25', ST_ZER_X25),
.. 300      P 0293  1  ('X29', ST_ZER_X29),
.. 301      P 0294  1  (TPAS_EOS, ST_ZER_PMT_MOD),
.. 302      0295  1  );
.. 303      0296  1  |
.. 304      P 0297  1  $STATE (ST_ZER_PMT_MOD,
.. 305      0298  1  (TPAS_LAMBDA, , ACTSPRPT, , PMTSG_ZER_MOD));
.. 306      0299  1  |
.. 307      P 0300  1  $STATE (
.. 308      P 0301  1  ('X25', ST_ZER_X25),
.. 309      P 0302  1  ('X29', ST_ZER_X29),
.. 310      P 0303  1  (TPAS_EOS, ST_ZER_PMT_MOD)
.. 311      0304  1  );
.. 312      0305  1  |
.. 313      P 0306  1  $STATE (ST_ZER_X25,
.. 314      0307  1  ('-'));
.. 315      P 0308  1  $STATE (
.. 316      P 0309  1  ('PROTOCOL', ST_ZPR_GO, , NMASC_ENT_MOD, NCP$GL_OPTION),
.. 317      P 0310  1  ('SERVER', ST_ZSE_DOIT, , NMASC_ENT_MOD, NCP$GL_OPTION)
.. 318      0311  1  );
```

```

: 320 0312 1
: 321 0313 1
: 322 0314 1 X25-PROTOCOL
: 323 0315 1
: 324 0316 1
: 325 P 0317 1 $STATE (ST_ZPR_GO,
: 326 P 0318 1 (TPAS_EOS, ST_ZPR_PMT_DAT),
: 327 P 0319 1 (TPAS_LAMBDA, ST_ZPR_DAT)
: 328 0320 1 );
: 329 0321 1
: 330 P 0322 1 $STATE (ST_ZPR_PMT_DAT,
: 331 0323 1 (TPAS_LAMBDA, ACT$PRMPT, PMT$G_ZPR_DAT));
: 332 0324 1
: 333 P 0325 1 $STATE (ST_ZPR_DAT,
: 334 P 0326 1 ('DTE', ST_ZPR_DAT_DTE),
: 335 P 0327 1 ('KNOWN', ST_ZPR_DAT_KWN),
: 336 P 0328 1 (TPAS_LAMBDA, ST_ZPR_DOIT)
: 337 0329 1 );
: 338 0330 1
: 339 P 0331 1 $STATE (ST_ZPR_DAT_DTE,
: 340 0332 1 ((SE_DTE_NUMBER), ST_ZPR_DOIT, ACT$SAVPRM, PBK$G_ZPR_DTE));
: 341 0333 1
: 342 P 0334 1 $STATE (ST_ZPR_DAT_KWN,
: 343 0335 1 ('DTE$', ST_ZPR_DOIT, ACT$SAVPRM, PBK$G_ZPR_KDT));
: 344 0336 1
: 345 0337 1
: 346 0338 1 ! Perform the function after ignoring noise words
: 347 0339 1 !
: 348 0340 1
: 349 P 0341 1 $STATE (ST_ZPR_DOIT,
: 350 P 0342 1 ('COUNTERS'),
: 351 P 0343 1 (TPAS_LAMBDA)
: 352 0344 1 );
: 353 0345 1
: 354 P 0346 1 $STATE ( , ! Allow for no parameters
: 355 P 0347 1 (TPAS_LAMBDA, , ACT$SAVPRM, , PBK$G_VRB_ALL)
: 356 0348 1 );
: 357 0349 1
: 358 P 0350 1 $STATE (
: 359 0351 1 (TPAS_EOS, TPAS_EXIT, ACT$VRB_UTILITY, , SDB$G_ZPR));

```

```
361 0352 1  
362 0353 1  
363 0354 1 X25-SERVER  
364 0355 1  
365 0356 1  
366 0357 1  
367 0358 1 Perform the function after ignoring noise words  
368 0359 1  
369 0360 1  
370 P 0361 1 $STATE (ST_ZSE_DOIT,  
371 P 0362 1 ('COUNTERS'),  
372 P 0363 1 (TPAS_LAMBDA)  
373 0364 1 );  
374 P 0365 1  
375 P 0366 1 $STATE ( ! Allow for no parameters  
376 P 0367 1 (TPAS_LAMBDA, , ACTSSAVPRM, , , PBK$G_VRB_ALL)  
377 0368 1 );  
378 P 0369 1  
379 P 0370 1 $STATE (  
380 P 0371 1 (TPAS_EOS, TPAS_EXIT, ACTSVRB_UTILITY, , , SDB$G_ZSE)  
381 0372 1 );  
382 0373 1  
383 0374 1  
384 0375 1  
385 0376 1 X29-SERVER  
386 0377 1  
387 0378 1  
388 P 0379 1 $STATE (ST_ZER_X29,  
389 0380 1 ('-T'));  
390 P 0381 1 $STATE (  
391 P 0382 1 ('SERVER', ST_Z9S_DOIT,, NMASC_ENT_MOD, NCP$GL_OPTION)  
392 0383 1 );  
393 0384 1  
394 0385 1  
395 0386 1 Perform the function after ignoring noise words  
396 0387 1  
397 0388 1  
398 P 0389 1 $STATE (ST_Z9S_DOIT,  
399 P 0390 1 ('COUNTERS'),  
400 P 0391 1 (TPAS_LAMBDA)  
401 0392 1 );  
402 0393 1  
403 P 0394 1 $STATE ( ! Allow for no parameters  
404 P 0395 1 (TPAS_LAMBDA, , ACTSSAVPRM, , , PBK$G_VRB_ALL)  
405 0396 1 );  
406 0397 1  
407 P 0398 1 $STATE (  
408 P 0399 1 (TPAS_EOS, TPAS_EXIT, ACTSVRB_UTILITY, , , SDB$G_Z9S)  
409 0400 1 );
```



```

439      0428 1
440      0429 1
441      0430 1      Find out which is known, lines or nodes
442      0431 1
443      0432 1
444      P 0433 1      COMMAND PROMPT
445      P 0434 1      (ZER, KDN, NCP$INVKEY,
446      P 0435 1
447      P 0436 1      ('CIRCUITS', ST_ZCI_DOIT, , NMASC_ENT_CIR, NCP$GL_OPTION),
448      P 0437 1      ('LINES', ST_ZLI_DOIT, , NMASC_ENT_LIN, NCP$GL_OPTION),
449      P 0438 1      ('MODULES', NMASC_ENT_MOD, NCP$GL_OPTION),
450      P 0439 1      ('NODES', ST_ZNO_DOIT, , NMASC_ENT_NOD, NCP$GL_OPTION)
451      P 0440 1
452      0441 1      )
453      0442 1
454      0443 1
455      0444 1      Perform the function after ignoring noise words
456      0445 1
457      0446 1
458      P 0447 1 $STATE (
459      P 0448 1      ('COUNTERS'),
460      P 0449 1      (TPAS_LAMBDA)
461      0450 1      );
462      0451 1
463      P 0452 1 $STATE (
464      P 0453 1      (TPAS_LAMBDA, , ACT$SAVPRM, , , PBK$G_VRB_ALL)
465      0454 1      );
466      0455 1
467      P 0456 1 $STATE (
468      P 0457 1      (TPAS_EOS, TPAS_EXIT, ACT$VRB_UTILITY, , , SDB$G_ZMO)
469      0458 1      );

```

```
.. 471      0459 1 %SBTTL 'Define Subexpressions from Library'  
.. 472      0460 1  
.. 473      0461 1  
.. 474      0462 1  
.. 475      0463 1  
.. 476      0464 1  
.. 477      0465 1  
.. 478      0466 1  
.. 479      0467 1  
.. 480      0468 1
```

Define subexpressions from library

SEM_DTE_NUMBER	:	DTE number
SEM_LINE_ID	:	Line id strings
SEM_CIRC_ID	:	Circuit name strings
SEM_NODE_ID	:	Node id strings

