





(1)	48	DECLARATIONS
(1)	82	READ ONLY DATA
(1)	92	READ/WRITE DATA

```
0000 1 .TITLE NPCONMAN - Console Carrier Requester Network Management
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 :++
0000 29 : FACILITY: REMOTE CONSOLE CARRIER (NI)
0000 30
0000 31 : ABSTRACT:
0000 32
0000 33 : THIS PROGRAM RUNS ON A LOCAL NODE TO ALLOW A TERMINAL TO APPEAR TO
0000 34 : BE LOCALLY CONNECTED TO A REMOTE CONSOLE.
0000 35
0000 36
0000 37 : ENVIRONMENT: VMS - USER MODE
0000 38
0000 39
0000 40 : AUTHOR: Scott G. Davis, 25-Mar-1983
0000 41
0000 42 : MODIFIED BY:
0000 43
0000 44
0000 45 :**
0000 46 :--
```

```

0000 48      .SBTTL  DECLARATIONS
0000 49      :
0000 50      : DEFAULT ADDRESSING MODE
0000 51      :
0000 52      : .DEFAULT DISPLACEMENT WORD
0000 53      :
0000 54      : INCLUDE FILES:
0000 55      :
0000 56      $NFBDEF      ; Network function block definitions
0000 57      $NMADEF      ; Network management definitions
0000 58      :
0000 59      : MACROS:
0000 60      :
0000 61      .MACRO  ONERROR ACTION,?L
0000 62      BLBS    RO,L
0000 63      ACTION
0000 64      L:
0000 65      .ENDM  ONERROR
0000 66      :
0000 67      : EQUATED SYMBOLS:
0000 68      :
0000000A 0000 69 LF      =      10
0000000D 0000 70 CR      =      13
0000 71      :
0000 72      : ***NOTE  References to PDBs assume they are of the form:
0000 73      :
0000 74      : .BYTE  presence-flag
0000 75      : .BLKB  n          - data
0000 76      :
0000 77      :
0000 78      :
0000 79      : OWN STORAGE:
0000 80      :
00000000 0000 81      .PSECT  CONCAR$PURE,NOWRT,NOEXE
0000 82      .SBTTL  READ ONLY DATA
0000 83      :
00000023' 0000 84 NOT_NI_MSG:  .LONG  20$-10$      ; Error message
00000008' 0004 85      .LONG  10$
76 20 6E 6F 65 74 67 72 65 70 4F 0A 0008 86 10$:  .ASCII  <LF>/Operation valid only on Ethernet/<CR><LF>
6E 6F 20 79 6C 6E 67 20 64 69 6C 61 0014
0A 0D 74 65 6E 72 65 68 74 45 20 0020
002B 87 20$:
002B 88
3A 30 54 45 4E 5F '0000033'010E0000' 002B 89 NET_DESC:  .ASCID  /_NET0:/
0039 90

```

	0039	92	.SBITL	READ/WRITE DATA		
	0000	93	.PSECT	CONCAR\$IMPURE,NOEXE,WRT,LONG		
	0000	94				
00000008	0000	95	IOSB: .BLKQ	1		: I/O status block
	0008	96				
00000010	0008	97	CIRC_DESC:	.BLKQ	1	: Descriptor to pass to \$ASSIGN
00000014	0010	98	NICE_MSG_END:	.BLKL	1	: Pointer to end of message
	0014	99				
00000016	0014	100	NETCHAN:	.BLKW	1	: Network I/O channel

```

00000000 102 .PSECT CONCAR$CODE,NOWRT
0000 103 :++
0000 104 :
0000 105 : CON$PARSE_NICE
0000 106 :
0000 107 : This routine takes a parameter ID, locates it in a NICE message, and
0000 108 : parses the data associated with the parameter.
0000 109 :
0000 110 : CALLING SEQUENCE:
0000 111 :
0000 112 : CALLS #4,CON$PARSE_NICE
0000 113 :
0000 114 : INPUT PARAMETERS:
0000 115 :
0000 116 : R1,R2 - Message descriptor
0000 117 : 4(AP) - Parameter type to match
0000 118 : 8(AP) - Address to store data, if parameters match
0000 119 :
0000 120 : IMPLICIT INPUTS:
0000 121 :
0000 122 : NICE response message for a NODE, of the form:
0000 123 :
0000 124 : .BYTE 1
0000 125 : .WORD error detail
0000 126 : .BYTE N$ASC_ENT_NOD
0000 127 : .WORD node address
0000 128 : .ASCII node name
0000 129 : .REPT N
0000 130 : .WORD PARAM_ID (DATA ID from network management spec)
0000 131 : .WORD PARAM_TYPE (DATA TYPE from network management spec)
0000 132 : data
0000 133 : .ENDR
0000 134 :
0000 135 : OUTPUT PARAMETERS:
0000 136 :
0000 137 : R0 - 0==> parameter not found, 1==>parameter found
0000 138 :
0000 139 : IMPLICIT OUTPUTS:
0000 140 :
0000 141 : If parameter is in message, it is stored at the address provided,
0000 142 : in the format that is appropriate, e.g. counted ASCII string.
0000 143 :
0000 144 : COMPLETION CODES:
0000 145 :
0000 146 : SIDE EFFECTS:
0000 147 :
0000 148 : None
0000 149 :
0000 150 : --
0000 151 :
0000 152 CON$PARSE_NICE:: .WORD ^M<R2,R3,R4,R5,R6,R7,R8,R9,R10,R11>
0002 153 C$R1 R0 ; Assume parameter is not found
0004 154 ADDL3 R1,R2,NICE_MSG_END ; Store pointer to end of message
000A 155 ADDL2 #3,R2 ; Skip response code and error detail
000D 156
000D 157 ASSUME N$ASC_ENT_NOD EQ 0
000D 158

```

```

OFFC
0010'CF 52 50 D4
52 51 C1
52 03 C0

```

		82	95	000D	159	TSTB	(R2)+	:	Check for node entity	
		3B	12	000F	160	BNEQ	100\$	:	If NEQ bogus msg	
0000'	CF	82	B0	0011	161	MOVW	(R2)+,CONSW_ADDR,DNA	:	Store the address	
56	0000'	CF	9E	0016	162	MOVAB	CONST_SHOW_NODE,R6	:	Point to name	
		53	82	9A	001B	MOVZBL	(R2)+,R3	:	Get length of node name	
		86	53	90	001E	MOVB	R3,(R6)+	:	Store name length	
			51	DD	0021	PUSHL	R1	:	Save original message lth	
66	62	53	28	0023	166	MOVCL	R3,(R2),(R6)	:	Store name	
		52	51	DD	0027	MOVL	R1,R2	:	Reset message pointer	
			51	8ED0	002A	POPL	R1	:	Restore message length	
				002D	169	:	:	:		
				002D	170	:	Main parsing loop	:		
				002D	171	:		:		
0010'	CF	52	D1	002D	172	20\$:	CMPL	R2,NICE_MSG_END	:	At end of message?
		18	1E	0032	173		BGEQU	100\$	:	If GEQU yes - param not found
		5B	D4	0034	174		CLRL	R11	:	Don't store unless there is a match
04	AC	82	B1	0036	175		CMPL	(R2)+,4(AP)	:	Is this the param?
		04	12	003A	176		BNEQ	30\$	:	If NEQ no - just skip over
5B	08	AC	DD	003C	177		MOVL	8(AP),R11	:	Need to store param - get its address
004D'	CF	00	FB	0040	178	30\$:	CALLS	#0,DECODE_TYPE	:	Decode the parameter
		5B	D5	0045	179		TSTL	R11	:	Was data stored?
		E4	13	0047	180		BEQL	20\$	:	If EQL no - keep looking
		50	01	DD	0049		MOVL	#1,R0	:	Parameter found
			04	004C	182	100\$:	RET	:	Done	



```

004D 184 :++
004D 185 :
004D 186 : DECODE_TYPE - decode NICE message data type, possibly storing data
004D 187 :
004D 188 : This routine may be called recursively, for coded-multiples
004D 189 :
004D 190 : CALLING SEQUENCE
004D 191 :
004D 192 : CALLS #0,DECODE_TYPE
004D 193 : INPUTS:
004D 194 :
004D 195 : R2 - points to param type in message
004D 196 : R11 - points to data storage area; 0==>just skip message field
004D 197 :
004D 198 : OUTPUTS:
004D 199 :
004D 200 : Data may be stored
004D 201 :
004D 202 :--
004D 203 :
0600 004D 204 DECODE_TYPE: .WORD ^M<R9,R10>
SA 82 9A 004F 205 MOVZBL (R2)+,R10 : Get the param type
59 5A D0 0052 206 MOVL R10,R9 : Make a copy
SA CO 8F 8A 0055 207 BICB #^C<NMASM_PTY_CLE>,R10 : Get no. of fields or bytes
OF 59 07 E1 0059 208 BBC #NMASV_PTY_COD,R9,100$ : If BC not encoded
21 59 06 E1 005D 209 BBC #NMASV_PTY_MUL,R9,175$ : If BC not coded-multiple
E6 AF 00 5A DD 0061 210 PUSHL R10 : Save recursion count
F9 6E F5 0063 211 10$: CALLS #0,DECODE_TYPE : Make recursive call
25 11 006A 212 SOBGTR (SP),10$ : Loop
006C 213 BRB 200$ : Common exit
006C 214 :
006C 215 : Type is not coded
006C 216 :
06 59 06 E0 006C 217 100$: BBS #NMASV_PTY_ASC,R9,150$ : If BS Image ASCII data
SA FO 8F 8A 0070 218 BICB #^C<NMASM_PTY_NLE>,R10 : Get no. of characters of data
0C 12 0074 219 BNEQ 175$ : If NEQ not image hex
5A 82 9A 0076 220 150$: MOVZBL (R2)+,R10 : Get lth of image data
5B D5 0079 221 TSTL R11 : Storing?
09 13 007B 222 BEQL 180$ : If EQL no
8B 5A 90 007D 223 MOVB R10,(R11)+ : Store lth of string
09 11 0080 224 BRB 190$ : Go to common code
0082 225 :
0082 226 :
0082 227 : Type is coded, but not multiple
0082 228 :
5B D5 0082 229 175$: TSTL R11 : Storing?
05 12 0084 230 BNEQ 190$ : If NEQ yes
52 5A C0 0086 231 180$: ADDL2 R10,R2 : Update message pointer
06 11 0089 232 BRB 200$ : Done
8B 82 90 008B 233 190$: MOVB (R2)+,(R11)+ : Store a byte
FA 5A F5 008E 234 SOBGTR R10,190$ : Loop
0091 235 :
04 0091 236 200$: RET : Done

```

```

0092 238 :++
0092 239 :
0092 240 : CON$GET_SLI - translate service circuit into VMS device name
0092 241 :
0092 242 : INPUTS:
0092 243 :
0092 244 :     Circuit name in .ASCIC in PDB$G_CON_SLI
0092 245 :
0092 246 :--
0092 247 :
0092 248 CON$GET_SLI::
0092 249     $ASSIGN_S DEVNAM = NET_DESC, CHAN = NETCHAN
00A3 250     ONERROR RET ; If error done
00A7 251
56 0000'CF 9E 00A7 252     MOVAB  CON$NFB,R6 ; Get address of NFB
    22 90 00AC 253     MOVB   #NFB$C_FC_SHOW,- ; This is a show function
    66 90 00AE 254     MOVB   #NFB$C_DB_CRI,- ; Circuit database
    04 90 00AF 255     MOVB   #NFB$C_DATABASE(R6)
    00 90 00B1 256     MOVB   #NFB$C_OP_EQL,- ; Match criterion
    03 A6 00B3 257     MOVB   #NFB$C_OPER(R6)
04020041 8F D0 00B7 259     MOVL  #NFB$C_CRI_NAM,- ; Match on circuit name
    04 A6 00BD 260     MOVL  #NFB$C_SRCH_KEY(R6)
04010020 8F D0 00BF 261     MOVL  #NFB$C_CRI_TYP,- ; I want the device type back
    10 A6 00C5 262     MOVL  #NFB$C_FLDID(R6)
04020042 8F D0 00C7 263     MOVL  #NFB$C_CRI_VMSNAM,- ; I want the VMS device name back
    14 A6 00CD 264     MOVL  #NFB$C_FLDID+4(R6)
50 0001'CF 9E 00CF 265     MOVAB  PDB$G_CON_SLI+1,R0 ; Point to circuit name
53 0004'CF 9E 00D4 266     MOVAB  CON$P2BUF+4,R3 ; Point to search key storage
    83 80 98 00D9 267     MOVZBW (R0)+,(R3)+ ; Store length of name
63 60 FE A3 28 00DC 268     MOVCS  -2(R3),(R0),(R3) ; Store the name
    00E1 269     $QIOW_S FUNC=#IOS ACPCONTROL,- ; Issue the control function
    00E1 270     CHAN=NETCHAN,-
    00E1 271     IOSB=IOSB,-
    00E1 272     P1=CON$NFB_DESC,-
    00E1 273     P2=#CON$P2BUF_DESC,-
    00E1 274     P4=#CON$P4BUF_DESC
    010E 275     ONERROR RET
    0112 276
50 0000'CF D0 0112 277     MOVL  IOSB,R0 ; Get IOSB
0000'8F 50 B1 0117 278     CMPW  R0,#$$$_ENDOFFILE ; Legitimate device?
    05 12 011C 279     BNEQ  $$ ; If NEQ maybe
50 0000'8F B0 011E 280     MOVW  #$$$_NOSUCHDEV,R0 ; Return this error
    0123 281 5$: ONERROR RET ; If error, so long
    0127 282
50 0000'CF 9E 0127 283     MOVAB  CON$P4BUF,R0 ; Get address of response buffer
    06 80 D1 012C 284     CMPL  (R0)+,#NMASC_CIRTY_NI ; Is this an Ethernet circuit?
    0E 13 012F 285     BEQL  10$ ; If EQL yes
53 0004'CF D0 0131 286     MOVL  NOT_NI_MSG+4,R3 ; Address of message
52 0000'CF D0 0136 287     MOVL  NOT_NI_MSG,R2 ; Length of message
    FEC2' 30 013B 288     BSBW  NCP$TTY_WRITE ; Output the message
    04 013E 289     RET ; That is all!
    013F 290
51 0008'CF 9E 013F 291 10$: MOVAB  CIRC_DESC,R1 ; Point to descriptor area
    81 80 3C 0144 292     MOVZWL (R0)+,(R1)+ ; Get the length of the name
    61 50 D0 0147 293     MOVL  R0,(R1) ; Get its address
0000'CF 71 DE 014A 294     MOVAL  -(R1),CON$XE_DESCADDR ; Move to desc addr to common place
  
```

NPCONMAN  
V04-000

- Console Carrier Requester Network Mana <sup>M 8</sup> 16-SEP-1984 02:00:00 VAX/VMS Macro V04-00  
READ/WRITE DATA 5-SEP-1984 02:13:37 [NCP.SRC]NPCONMAN.MAR;1

Page 8  
(1)

05 014F 295 100\$: RSB ; Done  
0150 296  
0150 297 .END

```

$ST1 = 00000001
CIRC_DESC = 00000008 R 03
CONSGET_SLI = 00000092 RG 04
CONSNFB ***** X 04
CONSNFB_DESC ***** X 04
CONSP2BUF ***** X 04
CONSP2BUF_DESC ***** X 04
CONSP4BUF ***** X 04
CONSP4BUF_DESC ***** X 04
CONSPARSE_NICE = 00000000 RG 04
CONST_SHOW_NODE ***** X 04
CONSW_ADDR_DNA ***** X 04
CONSX_E_DESCADDR ***** X 04
CR = 0000000D
DECODE_TYPE = 0000004D R 04
IOS_ACPCONTROL ***** X 04
IOSB = 00000000 R 03
LF = 0000000A
NCPSTTY_WRITE ***** X 04
NETCHAN = 00000014 R 03
NET_DESC = 0000002B R 02
NFBSB_DATABASE = 00000002
NFBSB_FCT = 00000000
NFBSB_OPER = 00000003
NFBSB_CRI_NAM = 04020041
NFBSB_CRI_TYP = 04010020
NFBSB_CRI_VMSNAM = 04020042
NFBSB_DB_CRI = 00000004
NFBSB_FC_SHOW = 00000022
NFBSB_OP_EQL = 00000000
NFBSL_FLDID = 00000010
NFBSL_SRCH_KEY = 00000004
NICE_MSG_END = 00000010 R 03
NMASC_CIRTY_NI = 00000006
NMASC_ENT_NOD = 00000000
NMASH_PTY_CLE = 0000003F
NMASH_PTY_NLE = 0000000F
NMASV_PTY_ASC = 00000006
NMASV_PTY_COD = 00000007
NMASV_PTY_MUL = 00000006
NOT_NI_MSG = 00000000 R 02
PDBG_CON_SLI ***** X 04
SSS_ENDOFFILE ***** X 04
SSS_NOSUCHDEV ***** X 04
SYSSASSIGN ***** GX 04
SYSSQIOW ***** GX 04

```

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

PSECT name	Allocation	PSECT No.	Attributes
. ABS	00000000 ( 0.)	00 ( 0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
\$ABSS	00000000 ( 0.)	01 ( 1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
CONCAR\$PURE	00000039 ( 57.)	02 ( 2.)	NOPIC USR CON REL LCL NOSHR NOEXE RD NOWRT NOVEC BYTE
CONCAR\$IMPURE	00000016 ( 22.)	03 ( 3.)	NOPIC USR CON REL LCL NOSHR NOEXE RD WRT NOVEC LONG

CONCAR\$CODE 00000150 ( 336.) 04 ( 4.) NOPIC USR CON REL LCL NOSHR EXE RD NOWRT NOVEC BYTE

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

Phase	Page faults	CPU Time	Elapsed Time
Initialization	31	00:00:00.04	00:00:01.31
Command processing	124	00:00:00.73	00:00:06.78
Pass 1	408	00:00:12.57	00:00:34.79
Symbol table sort	0	00:00:01.82	00:00:05.63
Pass 2	65	00:00:01.99	00:00:05.30
Symbol table output	7	00:00:00.08	00:00:00.12
Psect synopsis output	3	00:00:00.03	00:00:00.03
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	640	00:00:17.26	00:00:53.96

The working set limit was 1650 pages.  
67147 bytes (132 pages) of virtual memory were used to buffer the intermediate code.  
There were 80 pages of symbol table space allocated to hold 1394 non-local and 18 local symbols.  
297 source lines were read in Pass 1, producing 18 object records in Pass 2.  
17 pages of virtual memory were used to define 16 macros.

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

Macro library name	Macros defined
_\$255\$DUA28:[SHRLIB]NET.MLB;1	1
_\$255\$DUA28:[SHRLIB]NMALIBRY.MLB;1	1
_\$255\$DUA28:[SYS.OBJ]LIB.MLB;1	0
_\$255\$DUA28:[SYSLIB]STARLET.MLB;2	10
TOTALS (all libraries)	12

1505 GETS were required to define 12 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS\$:NCPCONMAN/OBJ=OBJ\$:NCPCONMAN MSRCS\$:NCPCONMAN/UPDATE=(ENHS\$:NCPCONMAN)+EXECMLS\$/LIB+SHRLIB\$:NMALIBRY/LIB+SHRLIB\$:NET/LIB

NCPLIBRY B32	NCPCONCAR LIS	NCPERRMSG LIS	NCPCONMAN LIS	NCPMAIN LIS	NCPNETIO LIS
NMAHEAD B32	NCLIBRY LIS	NMATAIL B32			