


```

PPPPPPPP      AAAAAA      TTTTTTTTTT      CCCCCCCC      MM      MM      DDDDDDDD
PPPPPPPP      AAAAAA      TTTTTTTTTT      CCCCCCCC      MM      MM      DDDDDDDD
PP      PP      AA      AA      TT      CC      MMMM      MMMM      DD      DD
PP      PP      AA      AA      TT      CC      MMMM      MMMM      DD      DD
PP      PP      AA      AA      TT      CC      MM      MM      DD      DD
PP      PP      AA      AA      TT      CC      MM      MM      DD      DD
PPPPPPPP      AA      AA      TT      CC      MM      MM      DD      DD
PPPPPPPP      AA      AA      TT      CC      MM      MM      DD      DD
PP      AAAAAAAAAA      TT      CC      MM      MM      DD      DD
PP      AAAAAAAAAA      TT      CC      MM      MM      DD      DD
PP      AA      AA      TT      CC      MM      MM      DD      DD
PP      AA      AA      TT      CC      MM      MM      DD      DD
PP      AA      AA      TT      CC      MM      MM      DD      DD
PP      AA      AA      TT      CCCCCCCC      MM      MM      DDDDDDDD
PP      AA      AA      TT      CCCCCCCC      MM      MM      DDDDDDDD

```

```

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
LLLLLLLLLLLL      IIIIII      SSSSSSSS
LLLLLLLLLLLL      IIIIII      SSSSSSSS

```

```

1 0001 0 MODULE PATCMD (
2 L 0002 0 %IF %VARIANT EQL 1
3 0003 0 %THEN
4 0004 C ADDRESSING_MODE (EXTERNAL = LONG_RELATIVE, NONEXTERNAL = LONG_RELATIVE),
5 0005 0 %FI
6 0006 0 IDENT = 'V04-000') =
7 0007 1 BEGIN
8 0008 1
9 0009 1 *****
10 0010 1 *
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28 0028 1 *
29 0029 1 *
30 0030 1 *****
31 0031 1
32 0032 1 FACILITY: PATCH
33 0033 1
34 0034 1 **
35 0035 1 FUNCTIONAL DESCRIPTION:
36 0036 1
37 0037 1 PATCH COMMAND LINE HANDLER
38 0038 1
39 0039 1
40 0040 1 History:
41 0041 1 Author:
42 0042 1 Carol Peters, 05 Oct 1976: DBGEXC.B32 Version 01
43 0043 1
44 0044 1
45 0045 1 MODIFIED BY:
46 0046 1
47 0047 1 V03-001 MTR0007 Mike Rhodes 14-Jun-1982
48 0048 1 Use shared system messages. Affected modules include:
49 0049 1 DYNMEM.B32, PATBAS.B32, PATCMD.B32, PATIHD.B32, PATINT.B32,
50 0050 1 PATIO.B32, PATMAI.B32, PATMSG.MSG, PATWRT.B32, and PATSPA.B32.
51 0051 1
52 0052 1 The shared messages are defined by DYNMEM.B32's invocation of
53 0053 1 SHRMSG.REQ and we simply link against these symbols. They are
54 0054 1 declared as external literals below.
55 0055 1
56 0056 1 V02-011 MTR0001 Mike Rhodes 20-AUG-1981
57 0057 1 Modify module PAT$PROMPT_READ\GET_LINE: write comments

```

to the Journal file instead of trashing them.

V02-010 PCG0001 Peter George 02-FEB-1981
Add require statement for LIB\$:PATDEF.REQ

MODIFICATIONS:

NO	DATE	PROGRAMMER	PURPOSE
00	13-OCT-77	K.D. MORSE	CONVERT FOR PATCH
01	15-DEC-77	K.D. MORSE	ADD JOURNAL OUTPUT, CHANGE PROMPT
02	3-JAN-78	K.D. MORSE	ADD CHECK FOR EOF.
03	5-JAN-78	K.D. MORSE	TURN OFF TYPE AHEAD AFTER FIRST READ.
04	16-JAN-78	K.D. MORSE	MAKE PATSPROMPT READ TO HANDLE COMMAND PROMPTING.
05	23-JAN-78	K.D. MORSE	CHANGE PAT\$CP INP STR TO PAT\$CP INP DSCS, A BLOCK OF INPUT LINE DESCRIPTORS TO HANDLE PROMPTING AND MULTIPLE INPUT LINES.
06	21-MAR-78	K.D. MORSE	ADD CHECK FOR <CR><LF> AND NO PATCH COMMAND.
07	25-APR-78	K.D. MORSE	CONVERT TO NATIVE COMPILER.
08	13-JUN-78	K.D. MORSE	ADD FAO COUNT TO SIGNALS.
09	19-JUN-78	K.D. MORSE	ADD CHECK TO IGNORE COMMENTS.

```
: 88      0087 1 FORWARD ROUTINE  
: 89      0088 1 PAT$COM PROC : NOVALUE,  
: 90      0089 1 PAT$PROMPT_READ;  
: 91      0090 1  
: 92      0091 1 LIBRARY 'SYSSLIBRARY:LIB.L32';  
: 93      0092 1 REQUIRE 'SRCS:VXSMAC.REQ':  
: 94      0157 1 REQUIRE 'LIBS:PATDEF.REQ':  
: 95      0211 1 REQUIRE 'LIBS:PATMSG.REQ':  
: 96      0385 1 REQUIRE 'SRCS:PATPCT.REQ':  
: 97      0425 1 REQUIRE 'SRCS:PATGEN.REQ':  
: 98      0647 1 REQUIRE 'SRCS:PATTER.REQ':  
: 99      0854 1 REQUIRE 'SRCS:PATTOK.REQ':  
: 100     0924 1 REQUIRE 'SRCS:SYSSER.REQ':
```

```
: Accepts a command  
: Prompts and reads a command
```

```
: Defines literals
```

PATCHD
V04-000

H 8
16-Sep-1984 00:17:45
15-Sep-1984 22:50:49

VAX-11 Bliss-32 V4.0-742
_S255SDUA28:[PATCH.SRC]SYSSER.REQ;1

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(1)

PA
VO

: R0956 1
: R0957 1
: R0958 1
: R0959 1
: R0960 1

SWITCHES LIST (SOURCE);

EXTERNAL ROUTINE

PAT\$fa0_out;

! formats a line and outputs to the terminal

:

.....

.....

.....

.....

```

101      1006 1
102      1007 1 EXTERNAL ROUTINE
103      1008 1     PAT$ERR_HANDLER,           ! Exception handler
104      1009 1     PAT$FREEERelease,       ! Releases free storage
105      1010 1     PAT$FREEZ,             ! Allocates free storage
106      1011 1     PAT$PARS_A_LINE,       ! Parses a line of input text
107      1012 1     PAT$WRITEFILE,        ! Writes the journal file
108      1013 1     GETFILDSC;             ! Returns the address of a file name descrip
109      1014 1
110      1015 1 EXTERNAL
111      1016 1     PAT$CP_INP_DSCS : REF VECTOR [ ,LONG], ! Points to vector of input string descripto
112      1017 1     PAT$GB_TAKE_CMD,       ! Indicator to accept more commands
113      1018 1     PAT$GB_INPNAME,        ! Input file name
114      1019 1     PAT$GL_ERRCODE,       ! Global error code
115      1020 1     PAT$GL_INPFAB: BLOCK [ , BYTE], ! FAB for 'SYSS$INPUT'
116      1021 1     PAT$GL_INPRAB: BLOCK [ , BYTE], ! RAB for 'SYSS$INPUT'
117      1022 1     PAT$GL_JNL_RAB: BLOCK [ , BYTE]; ! RAB for journal file
118      1023 1
119      1024 1 EXTERNAL LITERAL
120      1025 1     PAT$K_INPNAMLNG.       ! Input file name length
121      1026 1
122      1027 1     ! Define shared message references. (resolved @ link time)
123      1028 1
124      1029 1     PAT$_CLOSEIN,          ! Error closing input file.
125      1030 1     PAT$_CLOSEOUT,        ! Error closing output file.
126      1031 1     PAT$_OPENIN,          ! Error opening input file.
127      1032 1     PAT$_OPENOUT,        ! Error opening output file.
128      1033 1     PAT$_READERR,        ! Error reading from file.
129      1034 1     PAT$_SYSERROR,        ! System Service error.
130      1035 1     PAT$_WRITEERR;       ! Error writing to file.
131      1036 1
132      1037 1 LITERAL
133      1038 1     PATCH_PMT = 90;       ! Patch command prompt offset

```

```

1039 1 GLOBAL ROUTINE PAT$COM_PROC : NOVALUE =
1040 1
1041 1 !++
1042 1 FUNCTIONAL DESCRIPTION:
1043 1
1044 1     Accepts a single command line from the user at patch command level.
1045 1     A command is read from SYSS$INPUT.
1046 1
1047 1 CALLING SEQUENCE:
1048 1
1049 1     PAT$COM_PROC
1050 1
1051 1 INPUTS:
1052 1
1053 1     none
1054 1
1055 1 IMPLICIT INPUTS:
1056 1
1057 1     none
1058 1
1059 1 OUTPUTS:
1060 1
1061 1     none
1062 1
1063 1 IMPLICIT OUTPUTS:
1064 1
1065 1     none
1066 1
1067 1 ROUTINE VALUE:
1068 1
1069 1     NOVALUE
1070 1
1071 1 SIDE EFFECTS:
1072 1
1073 1     The parser is called with the contents of the input buffer.
1074 1
1075 1 --
1076 1
1077 2 BEGIN
1078 2
1079 2 LOCAL
1080 2     STG_DESC: BLOCK [8, BYTE];                ! String descriptor for parser
1081 2
1082 2 ENABLE PAT$ERR_HANDLER;
1083 2
1084 2 !++
1085 2 ! Request patch command.
1086 2 !--
1087 2 STG_DESC[DSC$W_LENGTH] = 0;
1088 2 WHILE (.STG_DESC[DSC$W_LENGTH] EQL 0)
1089 2 DO
1090 2     IF NOT PAT$PROMPT_READ (PATCH_PMT, STG_DESC)
1091 2     THEN
1092 2         RETURN;
1093 2
1094 2 !++
1095 2 ! Parse the command and execute it.

```



```

: 192      1096  2  !--
: 193      1097  2  PAT$PARS_A_LINE (STG_DESC);
: 194      1098  2  RETURN;
: 195      1099  1  END;

```

```

.TITLE  PATCMD
.IDENT  \V04-000\

.EXTRN  PAT$FAD_OUT, PAT$ERR_HANDLER
.EXTRN  PAT$FREEERELASE
.EXTRN  PAT$FREEZ, PAT$PARS_A_LINE
.EXTRN  PAT$WRITEFILE, GETFILDSC
.EXTRN  PAT$CP_INP_DSCS
.EXTRN  PAT$GB_TAKE_CMD
.EXTRN  PAT$GB_INPNAME, PAT$GL_ERRCODE
.EXTRN  PAT$GL_INPFAB, PAT$GL_INPRAB
.EXTRN  PAT$GL_JNLPRAB, PAT$K_INPNAMLNG
.EXTRN  PAT$_CLOSEIN, PAT$_CLOSEOUT
.EXTRN  PAT$_OPENIN, PAT$_OPENOUT
.EXTRN  PAT$_READERR, PAT$_SYSERROR
.EXTRN  PAT$_WRITEERR

```

.PSECT _PAT\$CODE, NOWRT, 2

			0000 00000	.ENTRY PAT\$COM_PROC, Save nothing	: 1039
	5E		08 C2 00002	SUBL2 #8, SP	
	6D	0022	CF DE 00005	MOVAL 3\$, (FP)	: 1077
			6E B4 0000A	CLRW STG_DESC	: 1087
			6E B5 0000C 1\$:	TSTW STG_DESC	: 1088
			11 12 0000E	BNEQ 2\$	
			5E DD 00010	PUSHL SP	: 1090
	7E	5A	8F 9A 00012	MOVZBL #90, -(SP)	
00000000V	EF		02 FB 00016	CALLS #2, PAT\$PROMPT_READ	
	EC		50 E8 0001D	BLBS R0, 1\$	
			04 00020	RET	: 1092
			5E DD 00021 2\$:	PUSHL SP	: 1097
00000000G	EF		01 FB 00023	CALLS #1, PAT\$PARS_A_LINE	
			04 0002A	RET	: 1099
			0000 0002B 3\$:	.WORD Save nothing	: 1077
			7E D4 0002D	CLRL -(SP)	
			5E DD 0002F	PUSHL SP	
	7E	04	AC 7D 00031	MOVQ 4(AP), -(SP)	
00000000G	EF		03 FB 00035	CALLS #3, PAT\$ERR_HANDLER	
			04 0003C	RET	: 1077

; Routine Size: 61 bytes, Routine Base: _PAT\$CODE + 0000

```

197 1100 1 GLOBAL ROUTINE PAT$PROMPT_READ(PROMPT_CODE, STG_DESC) =
198 1101 1
199 1102 1 !++
200 1103 1 FUNCTIONAL DESCRIPTION:
201 1104 1
202 1105 1 This routine requests a line of input from SYSS$INPUT. The prompt
203 1106 1 string is based on the prompt code passed as input. The command
204 1107 1 line is read.
205 1108 1
206 1109 1 If the command read from the device SYSS$INPUT is interpreted by
207 1110 1 RMS as EOF, or any other nonsuccessful return from RMS is seen,
208 1111 1 THEN cancel the command taking flag, and return.
209 1112 1
210 1113 1
211 1114 1 CALLING SEQUENCE:
212 1115 1
213 1116 1 PAT$PROMPT_READ(PROMPT_CODE, STG_DESC)
214 1117 1
215 1118 1 INPUTS:
216 1119 1
217 1120 1 PROMPT_CODE - Code for which prompt to display
218 1121 1 STG_DESC - Input line string descriptor
219 1122 1
220 1123 1 IMPLICIT INPUTS:
221 1124 1
222 1125 1 SYSS$INPUT is already opened as the input channel.
223 1126 1
224 1127 1 OUTPUTS:
225 1128 1
226 1129 1 The input line string descriptor is set.
227 1130 1
228 1131 1 IMPLICIT OUTPUTS:
229 1132 1
230 1133 1 The new input line is read.
231 1134 1
232 1135 1 ROUTINE VALUE:
233 1136 1
234 1137 1 Status code from read.
235 1138 1
236 1139 1 SIDE EFFECTS:
237 1140 1
238 1141 1 The command line is written to the journal file.
239 1142 1
240 1143 1 --
241 1144 1
242 1145 2 BEGIN
243 1146 2
244 1147 2 LITERAL
245 1148 2 NUM OF DSCS = 5, ! Number of default input line descriptors
246 1149 2 MORE_DSCS = 2, ! Size to increment input line table
247 1150 2 RIGHT_ANGLE = 'X'3E',
248 1151 2 SPACES = 'X'20',
249 1152 2 COMMENT_CHAR = 'X'21', ! Comment delimiter
250 1153 2 NULL_BYTE_LOC = 1,
251 1154 2 MAX_PMT_SIZ = 8,
252 1155 2 CONTINUE_PMT = 7;
253 1156 2

```

```

254      1157 2 MACRO
255      M 1158 PROMPT_MSG(PROMPT_STR) = UPLIT BYTE (%ASCII %STRING
256      M 1159 (%CHAR (CARRIAGE_RET),%CHAR(LINEFEED),
257      M 1160 PROMPT_STR,%CHAR(RIGHT_ANGLE)))%,
258      M 1161 PROMPT_SIZ(PROMPT_STR) = %CHARCOUNT (%ASCII %STRING
259      M 1162 (%CHAR (CARRIAGE_RET),%CHAR(LINEFEED),
260      M 1163 PROMPT_STR,%CHAR(RIGHT_ANGLE)))%;
261      M 1164
262      M 1165 OWN
263      M 1166 PROMPT_MSG_PTR : VECTOR[8, LONG] INITIAL ( ! Prompt texts
264      M 1167 PROMPT_MSG('PATCH'),
265      M 1168 PROMPT_MSG('OLD'),
266      M 1169 PROMPT_MSG('NEW'),
267      M 1170 PROMPT_MSG('LOC'),
268      M 1171 PROMPT_MSG('NAM'),
269      M 1172 PROMPT_MSG('EXP'),
270      M 1173 PROMPT_MSG('ECO'),
271      M 1174 PROMPT_MSG(' ')),
272      M 1175 PROMPT_MSG_SIZ : VECTOR[8, BYTE] INITIAL ( BYTE( ! Prompt text lengths
273      M 1176 PROMPT_SIZ('PATCH'),
274      M 1177 PROMPT_SIZ('OLD'),
275      M 1178 PROMPT_SIZ('NEW'),
276      M 1179 PROMPT_SIZ('LOC'),
277      M 1180 PROMPT_SIZ('NAM'),
278      M 1181 PROMPT_SIZ('EXP'),
279      M 1182 PROMPT_SIZ('ECO'),
280      M 1183 PROMPT_SIZ(' '));
281      M 1184
282      M 1185 LOCAL
283      M 1186 PMT_OFFSET, ! Offset into prompt tables
284      M 1187 PROMPT_BUFFER: VECTOR [MAX_PMT_SIZ-2+NO_OF_INP_CHARS+A_LONGWORD, BYTE],
285      M 1188 INPUT_BUFFER: REF VECTOR[, BYTE],
286      M 1189 PREV_COUNT, ! Current character count
287      M 1190 OLD_POINTER, ! Pointer to previous buffer
288      M 1191 LOOP, ! Loop counter
289      M 1192 NEW_DSCS, ! Pointer to new input line descriptor table
290      M 1193 NEW_POINTER : REF VECTOR [, BYTE]; ! Pointer to current buffer
291      M 1194
292      M 1195 LABEL
293      M 1196 GET_LINE, ! Block to get a command line
294      M 1197
295      M 1198 FIND_COMMENT; ! Block to find comment lines
296      M 1199
297      M 1200 MAP
298      M 1201 STG_DESC: REF BLOCK [8, BYTE]; ! String descriptor for parser
299      M 1202
300      M 1203 !++
301      M 1204 ! Compute the offset into the prompt tables for the prompt code.
302      M 1205 ! Set the INPUT_BUFFER to be the local input buffer.
303      M 1206 !--
304      M 1207 PMT_OFFSET = .PROMPT_CODE - MIN PMT_CODE;
305      M 1208 INPUT_BUFFER = CH$PTR(PROMPT_BUFFER[MAX_PMT_SIZ-2], 0);
306      M 1209
307      M 1210 !++
308      M 1211 ! Collect an entire command line. Enter a loop that collects multiple lines of
309      M 1212 ! input, ceasing only when a line ends with other than a hyphen ('-'), which
310      M 1213 ! is the line continuation character. Buffer the possibly multiple lines into

```

```

311 1214 2 ! free storage.
312 1215 2 !--
313 1216 2 PREV COUNT = 0;
314 1217 2 OLD POINTER = 0;
315 1218 2 PAT$GL_INPRAB [RAB$L_PBF] = CH$PTR(.PROMPT MSG PTR[.PMT_OFFSET],0);
316 1219 2 PAT$GL_INPRAB [RAB$B_PSZ] = .PROMPT MSG SIZE[.PMT_OFFSET];
317 1220 2 PAT$GL_INPRAB [RAB$L_UBF] = CH$PTR(.INPUT_BUFFER, 0);
318 1221 2
319 1222 2 !++
320 1223 2 ! Now get a command line. If the first character is a comment delimiter
321 1224 2 ! then get another command line.
322 1225 2 !--
323 1226 2 GET LINE:
324 1227 3 BEGIN
325 1228 3 REPEAT
326 1229 4 BEGIN
327 1230 4 PAT$GL_ERRCODE = $GET (RAB = PAT$GL_INPRAB);
328 1231 4 IF NOT .PAT$GL_ERRCODE
329 1232 4 THEN
330 1233 5 BEGIN
331 1234 5 !++
332 1235 5 ! The $GET failed. Set status so that PATCH returns to CLI.
333 1236 5 !--
334 1237 6 IF (.PAT$GL_ERRCODE EQL RMSS_EOF)
335 1238 5 THEN
336 1239 6 BEGIN
337 1240 6 PAT$GB TAKE CMD = FALSE;
338 1241 6 RETURN(.PAT$GL_ERRCODE);
339 1242 6 END
340 1243 5 ELSE
341 1244 5 SIGNAL (PAT$_READERR,1,GETFILDSC(PAT$GL_INPFAB),.PAT$GL_INPRAB[RAB$B_STS],.PAT$GL_IN
342 1245 5 END
343 1246 4 ELSE
344 1247 4 FIND COMMENT:
345 1248 5 BEGIN
346 1249 5 LOCAL
347 1250 5 MSG_SIZ;
348 1251 5 MSG_SIZ=.PAT$GL_INPRAB[RAB$W_RSZ];
349 1252 6 WHILE (.MSG_SIZ-GTR 0)
350 1253 5 DO
351 1254 6 BEGIN
352 1255 7 IF (.INPUT_BUFFER[.PAT$GL_INPRAB[RAB$W_RSZ]-.MSG_SIZ] EQL 'X'20')
353 1256 7 OR (.INPUT_BUFFER[.PAT$GL_INPRAB[RAB$W_RSZ]-.MSG_SIZ] EQL 'X'09')
354 1257 6 THEN
355 1258 6 MSG_SIZ = .MSG_SIZ - 1
356 1259 6 ELSE
357 1260 7 IF (.INPUT_BUFFER[.PAT$GL_INPRAB[RAB$W_RSZ]-.MSG_SIZ] EQL COMMENT_CHAR)
358 1261 6 THEN
359 1262 7 BEGIN
360 1263 7 PAT$WRITEFILE (.PAT$GL_INPRAB[RAB$W_RSZ],
361 1264 7 CH$PTR(.INPUT_BUFFER, 0),
362 1265 7 PAT$GL_JNL_RAB),
363 1266 7 LEAVE FIND_COMMENT;
364 1267 7 END
365 1268 6 ELSE
366 1269 6 LEAVE GET_LINE;
367 1270 5 END;

```

```

368 1271 4
369 1272 3
370 1273 2 END;
371 1274 2
372 1275 2 !++
373 1276 2 ! Insert the prompt (without the <CR><LF>) at the start of the input buffer and
374 1277 2 ! write the prompt plus the command to the journal file.
375 1278 2 !--
376 1279 2 CH$COPY(.PROMPT_MSG_SIZE[PMT_OFFSET]-2, CH$PTR(.PROMPT_MSG_PTR[PMT_OFFSET],2),
377 1280 2 ! SPACES, MAX_PMT_SIZE-2, CH$PTR(PROMPT_BUFFER,0));
378 1281 2 PAT$WRITEFILE(.PAT$GL_INPRAB[RAB$W_RSZ]+MAX_PMT_SIZE-2, PROMPT_BUFFER,
379 1282 2 ! PAT$GL_INLRAB);
380 1283 2
381 1284 2 !++
382 1285 2 ! Now change the prompt to an underscore in case there are continuation lines.
383 1286 2 !--
384 1287 2 CH$COPY(.PROMPT_MSG_SIZE[CONTINUE_PMT]-2, CH$PTR(.PROMPT_MSG_PTR[CONTINUE_PMT],2),
385 1288 2 ! SPACES, MAX_PMT_SIZE-2, CH$PTR(PROMPT_BUFFER,0));
386 1289 2 PAT$GL_INPRAB [RAB$V_PTA] = FALSE;
387 1290 2 PAT$GL_INPRAB [RAB$L_PBF] = CH$PTR(.PROMPT_MSG_PTR[CONTINUE_PMT],0);
388 1291 2 PAT$GL_INPRAB [RAB$B_PSZ] = .PROMPT_MSG_SIZE[CONTINUE_PMT];
389 1292 2
390 1293 2 !++
391 1294 2 ! Loop, reading all continuation lines for this command.
392 1295 2 !--
393 1296 2 REPEAT
394 1297 2 BEGIN
395 1298 2 LOCAL
396 1299 2 CONT_LINE; ! Boolean test for end of line character
397 1300 2
398 1301 2 IF (.INPUT_BUFFER [.PAT$GL_INPRAB [RAB$W_RSZ] - 1] EQL '-')
399 1302 2 THEN
400 1303 2 BEGIN
401 1304 2 PAT$GL_INPRAB [RAB$W_RSZ] = .PAT$GL_INPRAB [RAB$W_RSZ] - 1;
402 1305 2 CONT_LINE = TRUE;
403 1306 2 END
404 1307 2 ELSE CONT_LINE = FALSE;
405 1308 2
406 1309 2 !++
407 1310 2 ! Allocate space for this buffer plus all previous buffers.
408 1311 2 ! If the space can be found, write the old and new buffers
409 1312 2 ! into the new space.
410 1313 2 !--
411 1314 2 NEW_POINTER = PAT$freez ((.PREV_COUNT + NULL_BYTE_LOC +
412 1315 2 ! .PAT$GL_INPRAB [RAB$W_RSZ] + 3) / 4);
413 1316 2
414 1317 2 IF (.OLD_POINTER NEQ 0)
415 1318 2 THEN
416 1319 2 BEGIN
417 1320 2 CH$MOVE (.PREV_COUNT, .OLD_POINTER, .NEW_POINTER);
418 1321 2 PAT$FREERELEASE (.OLD_POINTER, (.PREV_COUNT + NULL_BYTE_LOC + 3) / 4);
419 1322 2 END;
420 1323 2 CH$MOVE (.PAT$GL_INPRAB [RAB$W_RSZ], CH$PTR(.INPUT_BUFFER,0),
421 1324 2 ! CH$PLUS (.NEW_POINTER, .PREV_COUNT));
422 1325 2 PREV_COUNT = .PREV_COUNT + .PAT$GL_INPRAB [RAB$W_RSZ];
423 1326 2 NEW_POINTER [.PREV_COUNT] = 0;
424 1327 2

```

```

425 1328 3 OLD_POINTER = .NEW_POINTER;
426 1329 3
427 1330 3
428 1331 3 :++
429 1332 3 : See whether this line ends with a continuation character.
430 1333 3 : If so, get another line.
431 1334 3 :--
432 1335 3 IF NOT .CONT_LINE
433 1336 3 THEN EXITLOOP;
434 1337 3 PAT$GL_ERRCODE = $GET (RAB = PAT$GL_INPRAB);
435 1338 3 IF NOT .PAT$GL_ERRCODE
436 1339 3 THEN
437 1340 3     SIGNAL (PAT$ READERR,1,GETFILDSC(PAT$GL_INPFAB),.PAT$GL_INPRAB[RAB$L_STS],.PAT$GL_INPRAB[RAB
438 1341 3     PAT$GL_INPRAB[RAB$W_RSZ]+MAX_PMT_SIZ-2, PROMPT_BUFFER,
439 1342 3     PAT$GL_INPRAB]);
440 1343 3 END;
441 1344 2 :++
442 1345 2 : A complete line has been collected. Now set up the return input line descriptor.
443 1346 2 :--
444 1347 2 STG_DESC [dsc$w_length] = .PREV_COUNT;
445 1348 2 STG_DESC [dsc$a_pointer] = .NEW_POINTER;
446 1349 2
447 1350 2 :++
448 1351 2 : The input line must be entered in the input descriptor table for deallocation
449 1352 2 : when the command is over. PAT$CP_INP_DSCS is a pointer to a vector of
450 1353 2 : longwords. The first longword is the number of string descriptors in the
451 1354 2 : vector. The remaining space is string descriptors, one for each input line
452 1355 2 : used for this command. Any unused descriptors are filled with zeros.
453 1356 2 : PAT$END_OF_LINE in PACT.B32 will deallocate the input lines.
454 1357 2 :--
455 1358 2
456 1359 2 :++
457 1360 2 : First check that there is a descriptor table allocated.
458 1361 2 : If not, then allocate one and initialize the count of descriptors.
459 1362 2 :--
460 1363 3 IF (.PAT$CP_INP_DSCS EQLA 0)
461 1364 3 THEN
462 1365 3     BEGIN
463 1366 3     PAT$CP_INP_DSCS = PAT$FREEZ(((A_QUADWORD * NUM_OF_DSCS) + A_LONGWORD +3)/4);
464 1367 3     PAT$CP_INP_DSCS[0] = NUM_OF_DSCS;
465 1368 3     END;
466 1369 2
467 1370 2 :++
468 1371 2 : Now enter a string descriptor for the input line just read. Use the first
469 1372 2 : zero entry in the descriptor table. If there is none, then a larger table
470 1373 2 : must be allocated and the old table deallocated.
471 1374 2 :--
472 1375 2 INCR LOOP FROM 1 TO .PAT$CP_INP_DSCS[0]*2 BY 2
473 1376 2 DO
474 1377 2     IF (.PAT$CP_INP_DSCS[.LOOP] EQL 0)
475 1378 2     THEN
476 1379 2     BEGIN
477 1380 2     PAT$CP_INP_DSCS [.LOOP] = .PREV_COUNT + 1;
478 1381 2     PAT$CP_INP_DSCS [.LOOP + 1] = .NEW_POINTER;
479 1382 2     RETURN(PAT$GL_ERRCODE);
480 1383 2     END;
481 1384 2

```

```

482 1385 2 1++
483 1386 2 1 There was not enough room in the descriptor table. Therefore allocate a
484 1387 2 1 larger table, copy in the old table, deallocate the old table, and insert
485 1388 2 1 the new descriptor into the table.
486 1389 2 1
487 1390 2 1 NEW_DSCS = PAT$FREEZ( (((.PAT$CP_INP_DSCS[0] + MORE_DSCS) * A_QUADWORD) + A_LONGWORD
488 1391 2 1 + 3) / 4);
489 1392 2 1 CH$MOVE(((.PAT$CP_INP_DSCS[0] * A_QUADWORD) + A_LONGWORD), CH$PTR(.PAT$CP_INP_DSCS, 0),
490 1393 2 1 CH$PTR(.NEW_DSCS, 0));
491 1394 2 1 PAT$FREERELEASE(.PAT$CP_INP_DSCS, (((.PAT$CP_INP_DSCS[0] * A_QUADWORD) + A_LONGWORD
492 1395 2 1 + 3) / 4);
493 1396 2 1 PAT$CP_INP_DSCS = CH$PTR (.NEW_DSCS, 0);
494 1397 2 1 PAT$CP_INP_DSCS[(.PAT$CP_INP_DSCS[0]*2)+1] = .PREV_COUNT + 1;
495 1398 2 1 PAT$CP_INP_DSCS[(.PAT$CP_INP_DSCS[0]*2)+2] = .NEW_POINTER;
496 1399 2 1 PAT$CP_INP_DSCS[0] = .PAT$CP_INP_DSCS[0] + MORE_DSCS;
497 1400 2 1 RETURN(.PAT$GL_ERRCODE);
498 1401 1 1 END;

```

```

.PSECT _PAT$PLIT, NOWRT, NOEXE, 0
3E 48 43 54 41 50 0A 0D 00000 P.AAA: .ASCII <13><10>\PATCH>\
3E 44 4C 4F 0A 0D 00008 P.AAB: .ASCII <13><10>\OLD>\
3E 57 45 4E 0A 0D 0000E P.AAC: .ASCII <13><10>\NEW>\
3E 43 4F 4C 0A 0D 00014 P.AAD: .ASCII <13><10>\LOC>\
3E 4D 41 4E 0A 0D 0001A P.AAE: .ASCII <13><10>\NAM>\
3E 50 58 45 0A 0D 00020 P.AAF: .ASCII <13><10>\EXP>\
3E 4F 43 45 0A 0D 00026 P.AAG: .ASCII <13><10>\ECO>\
3E 5F 0A 0D 0002C P.AAH: .ASCII <13><10>\_>\
.PSECT _PAT$OWN, NOEXE, 2
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00000 PROMPT_MSG PTR:
.PADDRESS P.AAA, P.AAB, P.AAC, P.AAD, P.AAE, -
04 06 06 00000000' 00000000' 00018 P.AAF, P.AAG, P.AAH
06 06 06 06 08 00020 PROMPT_MSG_SIZ:
.BYTE 8, 6, 6, 6, 6, 6, 6, 4
.EXTRN SYS$GET
.PSECT _PAT$CODE, NOWRT, 2
OFFC 00000
.ENTRY PAT$PROMPT_READ, Save R2,R3,R4,R5,R6,R7,R8,-; 1100
R9,R10,R11
5B 00000000G EF 9E 00002 MOVAB PAT$GL_INPRAB+34, R11
5E FF70 CE 9E 00009 MOVAB -144(SP), SP
52 04 AC 0000005A 8F C3 0000E SUBL3 #90, PROMPT_CODE, PMT_OFFSET
57 06 AE 9E 00017 MOVAB PROMPT_BUFFER+6, INPUT_BUFFER
56 D4 0001B CLRL PREV_COUNT
5A D4 0001D CLRL OLD_POINTER
0E AB 00000000'EF42 D0 0001F MOVL PROMPT_MSG_PTR[PMT_OFFSET], -
PAT$GL_INPRAB+48
12 AB 00000000'EF42 90 00028 MOVB PROMPT_MSG_SIZ[PMT_OFFSET], -
PAT$GL_INPRAB+52
02 AB DE 57 D0 00031 MOVL INPUT_BUFFER, PAT$GL_INPRAB+36
DE AB 9F 00035 1$: PUSHAB PAT$GL_INPRAB

```

00000000G	00	01	FB	00038	CALLS	#1, SYSSGET	
00000000G	EF	50	D0	0003F	MOVL	R0, PAT\$GL_ERRCODE	1231
	34	50	E8	00046	BLBS	R0, 3\$	1237
0001877A	8F	50	D1	00049	CMPL	R0, #98938	1240
		07	12	00050	BNEQ	2\$	1241
	00000000G	EF	D4	00052	CLRL	PAT\$GB_TAKE_CMD	1244
		04	00058	RET			
	7E	E6	AB	7D	00059	2\$: MOVQ	PAT\$GL_INPRAB+8, -(SP)
		00000000G	EF	9F	0005D	PUSHAB	PAT\$GL_INPFAB
00000000G	EF	01	FB	00063	CALLS	#1, GETFILDSC	
		50	DD	0006A	PUSHL	R0	
		01	DD	0006C	PUSHL	#1	
00000000G	00	00000000G	8F	DD	0006E	PUSHL	#PAT\$ READERR
			05	FB	00074	CALLS	#5, LIB\$SIGNAL
			B8	11	0007B	BRB	1\$
	53		6B	3C	0007D	3\$: MOVZWL	PAT\$GL_INPRAB+34, MSG_SIZ
			B3	15	00080	4\$: BLEQ	1\$
	50		6B	3C	00082	MOVZWL	PAT\$GL_INPRAB+34, R0
	50		53	C2	00085	SUBL2	MSG_SIZ, R0
	20		6047	91	00088	CMPB	(R0)[INPUT_BUFFER], #32
			06	13	0008C	BEQL	5\$
	09		6047	91	0008E	CMPB	(R0)[INPUT_BUFFER], #9
			04	12	00092	BNEQ	6\$
			53	D7	00094	5\$: DECL	MSG_SIZ
			E8	11	00096	BRB	4\$
	21		6047	91	00098	6\$: CMPB	(R0)[INPUT_BUFFER], #33
			14	12	0009C	BNEQ	7\$
		00000000G	EF	9F	0009E	PUSHAB	PAT\$GL_JNLPRAB
			57	DD	000A4	PUSHL	INPUT_BUFFER
00000000G	7E		6B	3C	000A6	MOVZWL	PAT\$GL_INPRAB+34, -(SP)
	EF		03	FB	000A9	CALLS	#3, PAT\$WRITEFILE
			83	11	000B0	BRB	1\$
	51	00000000'	EF	42	9A	000B2	7\$: MOVZBL
	51		02	C2	000BA	SUBL2	#2, R1
	50	00000000'	EF	42	D0	000BD	MOVL
06	20	02	A0	51	2C	000C5	MOVC5
			6E	000CB			R1, 2(R0), #32, #6, PROMPT_BUFFER
			00000000G	EF	9F	000CC	PUSHAB
			04	AE	9F	000D2	PUSHAB
			7E	6B	3C	000D5	MOVZWL
			6E	06	C0	000D8	ADDL2
00000000G	EF		03	FB	000DB	CALLS	#3, PAT\$WRITEFILE
	50	00000000'	EF	9A	000E2	MOVZBL	PROMPT_MSG_SIZ+7, R0
	50		02	C2	000E9	SUBL2	#2, R0
	58	00000000'	EF	D0	000EC	MOVL	PROMPT_MSG_PTR+28, R8
06	20	02	A8	50	2C	000F3	MOVC5
			6E	000F9			R0, 2(R8), #32, #6, PROMPT_BUFFER
			E5	AB	20	8A	000FA
			0E	AB	58	D0	000FE
			12	AB	00000000'	EF	90
			50	6B	3C	0010A	8\$: MOVZWL
			2D	FF	A047	91	0010D
				07	12	00112	CMPB
				6B	B7	00114	BNEQ
			59	01	D0	00116	DECW
				02	11	00119	MOVL
				59	D4	0011B	9\$: CLRL
							CONT_LINE
							1281
							1287
							1288
							1289
							1290
							1291
							1302
							1305
							1306
							1302
							1308

	50		6B	3C	0011D	10\$:	MOVZWL	PAT\$GL_INPRAB+34, R0	1316
	50	04	A046	9E	00120		MOVAB	4(R0)[PREV_COUNT], R0	1315
7E	50		04	C7	00125		DIVL3	#4, R0, -(SP)	1316
00000000G	EF		01	FB	00129		CALLS	#1, PAT\$FREEZ	
	58		50	DD	00130		MOVL	R0, NEW_POINTER	
			5A	D5	00133		TSTL	OLD_POINTER	1318
			15	13	00135		BEQL	11\$	
68	6A		56	28	00137		MOV3	PREV_COUNT, (OLD_POINTER), (NEW_POINTER)	1321
	50	04	A6	9E	0013B		MOVAB	4(R6), R0	1322
7E	50		04	C7	0013F		DIVL3	#4, R0, -(SP)	
			5A	DD	00143		PUSHL	OLD_POINTER	
00000000G	EF		02	FB	00145		CALLS	#2, PAT\$FREEERELASE	
6648	67		6B	28	0014C	11\$:	MOV3	PAT\$GL_INPRAB+34, (INPUT_BUFFER), -	1325
								(PREV_COUNT)[NEW_POINTER]	
	50		6B	3C	00151		MOVZWL	PAT\$GL_INPRAB+34, R0	1326
	56		50	C0	00154		ADDL2	R0, PREV_COUNT	
			6648	94	00157		CLRB	(PREV_COUNT)[NEW_POINTER]	1327
	5A		58	DD	0015A		MOVL	NEW_POINTER, OLD_POINTER	1328
	53		59	E9	0015D		BLBC	CONT_LINE, 13\$	1334
		DE	AB	9F	00160		PUSHAB	PAT\$GL_INPRAB	1336
00000000G	00		01	FB	00163		CALLS	#1, SYS\$GET	
00000000G	EF		50	DD	0016A		MOVL	R0, PAT\$GL_ERRCODE	
	22	00000000G	EF	E8	00171		BLBS	PAT\$GL_ERRCODE, 12\$	1337
	7E	E6	AB	7D	00178		MOVQ	PAT\$GL_INPRAB+8, -(SP)	1339
		00000000G	EF	9F	0017C		PUSHAB	PAT\$GL_INPFAB	
00000000G	EF		01	FB	00182		CALLS	#1, GETFILDSC	
			50	DD	00189		PUSHL	R0	
			01	DD	0018B		PUSHL	#1	
		00000000G	8F	DD	0018D		PUSHL	#PAT\$ READERR	
00000000G	00		05	FB	00193		CALLS	#5, LIB\$SIGNAL	
		00000000G	EF	9F	0019A	12\$:	PUSHAB	PAT\$GL_JNL_RAB	1340
		04	AE	9F	001A0		PUSHAB	PROMPT_BUFFER	
	7E		6B	3C	001A3		MOVZWL	PAT\$GL_INPRAB+34, -(SP)	
	6E		06	C0	001A6		ADDL2	#6, (SP)	
00000000G	EF		03	FB	001A9		CALLS	#3, PAT\$WRITEFILE	
			FF57	31	001B0		BRW	8\$	1291
	50	08	AC	DD	001B3	13\$:	MOVL	STG_DESC, R0	1347
	60		56	DD	001B7		MOVW	PREV_COUNT, (R0)	
04	A0		58	DD	001BA		MOVL	NEW_POINTER, 4(R0)	1348
		00000000G	EF	D5	001BE		TSTL	PAT\$CP_INP_DSCS	1363
			17	12	001C4		BNEQ	14\$	
			0B	DD	001C6		PUSHL	#11	1366
00000000G	EF		01	FB	001C8		CALLS	#1, PAT\$FREEZ	
00000000G	EF		50	DD	001CF		MOVL	R0, PAT\$CP_INP_DSCS	
00000000G	FF		05	DD	001D6		MOVL	#5, @PAT\$CP_INP_DSCS	1367
	51	00000000G	EF	DD	001DD	14\$:	MOVL	PAT\$CP_INP_DSCS, R1	1375
	50		61	DD	001E4		MOVL	(R1), R0	
53	50		01	78	001E7		ASHL	#1, R0, R3	
	52		01	CE	001EB		MNEGL	#1, LOOP	
			11	11	001EE		BRB	16\$	
			6142	D5	001F0	15\$:	TSTL	(R1)[LOOP]	1377
			0C	12	001F3		BNEQ	16\$	
	6142	01	A6	9E	001F5		MOVAB	1(R6), (R1)[LOOP]	1380
	04	A142	58	DD	001FA		MOVL	NEW_POINTER, 4(R1)[LOOP]	1381
			6A	11	001FF		BRB	17\$	1382
FFE9	52		53	F1	00201	16\$:	ACBL	R3, #2, LOOP, 15\$	1377
			08	C4	00207		MULL2	#8, R0	1390

7E	00000000G	50	17	C0	0020A	ADDL2	#23, R0	:	1391	
		50	04	C7	0020D	DIVL3	#4, R0, -(SP)	:		
		EF	01	FB	00211	CALLS	#1, PAT\$FREEZ	:		
		5A	50	D0	00218	MOVL	R0, NEW_DSCS	:		
		57	00000000G	EF	D0	0021B	MOVL	PAT\$CP_INP_DSCS, R7	:	1392
		59	67	D0	00222	MOVL	(R7), R9	:		
50		59	03	78	00225	ASHL	#3, R9, R0	:		
		50	04	C0	00229	ADDL2	#4, R0	:		
6A		67	50	28	0022C	MOVC3	R0, (R7), (NEW_DSCS)	:	1393	
50		59	03	78	00230	ASHL	#3, R9, R0	:	1394	
		50	07	C0	00234	ADDL2	#7, R0	:		
7E		50	04	C7	00237	DIVL3	#4, R0, -(SP)	:	1395	
			57	DD	0023B	PUSHL	R7	:	1394	
	00000000G	EF	02	FB	0023D	CALLS	#2, PAT\$FREERELEASE	:		
	00000000G	EF	5A	D0	00244	MOVL	NEW_DSCS, PAT\$CP_INP_DSCS	:	1396	
		51	00000000G	EF	D0	0024B	MOVL	PAT\$CP_INP_DSCS, -R1	:	1397
		52	61	D0	00252	MOVL	(R1), R2	:		
50		52	01	78	00255	ASHL	#1, R2, R0	:		
	04 A140		01	A6	9E	00259	MOVAB	1(R6), 4(R1)[R0]	:	
50		52	01	78	0025F	ASHL	#1, R2, R0	:	1398	
	08 A140		58	D0	00263	MOVL	NEW_POINTER, 8(R1)[R0]	:		
		61	02	C0	00268	ADDL2	#2, (R1)	:	1399	
		50	00000000G	EF	D0	0026B	MOVL	PAT\$GL_ERRCODE, R0	:	1400
			04	00272	RET			:	1401	

; Routine Size: 627 bytes, Routine Base: _PAT\$CODE + 003D

: 500 1402 1 END
: 501 1403 0 ELUDOM

.EXTRN LIB\$SIGNAL

PSECT SUMMARY

Name	Bytes	Attributes
PAT\$CODE	688	NOVEC,NOWRT, RD, EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)
PAT\$PLIT	48	NOVEC,NOWRT, RD, NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(0)
PAT\$OWN	40	NOVEC, WRT, RD, NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)

Library Statistics

File	----- Symbols -----		Pages Mapped	Processing Time
	Total	Loaded Percent		
_S255\$DUA28:[SYSLIB]LIB.L32;1	18619	18 0	1000	00:01.8

COMMAND QUALIFIERS

BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/VARIANT:1/LIS=LIS\$:PATCMD/OBJ=OBJ\$:PATCMD MSRC\$:PATCMD/UPDATE=(ENH\$:PATCMD)

: Size: 688 code + 88 data bytes
: Run Time: 00:23.0
: Elapsed Time: 01:31.8
: Lines/CPU Min: 3666
: Lexemes/CPU-Min: 38226
: Memory Used: 236 pages
: Compilation Complete

0300 AH-BT13A-SE
VAX/VMS V4.0

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The image displays a grid of 100 terminal windows, arranged in 10 rows and 10 columns. Each window contains a different data visualization or report. The windows are titled with various alphanumeric codes, including:

- PATARI LIS
- PATCMD LIS
- PATECO LIS
- PATCON LIS
- PATENC LIS
- PATBAS LIS
- PATBLD LIS

The data within the windows includes:

- Tables with multiple columns and rows of text.
- Bar charts with vertical bars of varying heights.
- Line graphs with plotted data points.
- Text-based reports with headers and footers.
- Summary statistics and totals.

The overall appearance is that of a dense, multi-screen data environment from the early 1980s.