

[illegible]


```
1 0001 0 MODULE OPC$OPCOMRPLY (
2 0002 0
3 0003 0 LANGUAGE (BLISS32),
4 0004 0 IDENT = 'V04-000',
5 0005 0 ) =
6 0006 0
7 0007 0 *****
8 0008 0 *
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26 0026 0 *
27 0027 0 *****
28 0028 0
29 0029 0 ++
30 0030 0 FACILITY:
31 0031 0
32 0032 0 OPCOM
33 0033 0
34 0034 0 ABSTRACT:
35 0035 0
36 0036 0 This module contains the specialized logic to service
37 0037 0 a particular type of request sent by a user to OPCOM.
38 0038 0
39 0039 0 Environment:
40 0040 0
41 0041 0 VAX/VMS operating system.
42 0042 0
43 0043 0 Author:
44 0044 0
45 0045 0 Steven T. Jeffreys
46 0046 0
47 0047 0 Creation date:
48 0048 0
49 0049 0 March 10, 1981
50 0050 0
51 0051 0 Revision history:
52 0052 0
53 0053 0 V03-003 CWH3003 CW Hobbs 16-Sep-1983
54 0054 0 Use VM jacket routines.
55 0055 0
56 0056 0 V03-002 CWH3002 CW Hobbs 30-Jul-1983
57 0057 0 Various and sundry things to make OPCOM distributed
```



```
58      0058 0 | across the cluster.
59      0059 0 |
60      0060 0 | V03-001 STJ49918 Steven T. Jeffreys, 13-Oct-1982
61      0061 0 | Honor replies to a request even if the replier does not
62      0062 0 | have OPER privilege, as long as the reply originated from
63      0063 0 | an operator terminal attached to a process with the same
64      0064 0 | UIC as the request.
65      0065 0 |
66      0066 0 | V02-004 STJ0163 Steven T. Jeffreys, 08-Feb-1982
67      0067 0 | Make references to library routines use general addressing mode.
68      0068 0 |
69      0069 0 | V02-003 STJ0078 Steven T. Jeffreys, 01-Aug-1981
70      0070 0 | Added support for INITIALIZE and BLANK replies to the
71      0071 0 | mag. tape ACP's requests.
72      0072 0 |
73      0073 0 | V02-002 STJ0043 Steven T. Jeffreys, 23-May-1981
74      0074 0 | Changed code to use new RQSTCPLTE, RQSTABORT and RQSTPEND
75      0075 0 | message formats. Note corresponding change to OPCMSG.MSG.
76      0076 0 |
77      0077 0 | --
78      0078 0 |
79      0079 1 | BEGIN ! Start of OPCOMRPLY
80      0080 1 |
81      0081 1 | LIBRARY 'SYSSLIBRARY:LIB.L32';
82      0082 1 | LIBRARY 'LIBS:OPCOMLIB';
83      0083 1 |
84      0084 1 | FORWARD ROUTINE
85      0085 1 | REPLY_HANDLER : NOVALUE,
86      0086 1 | REPLY_CLM_HANDLER : NOVALUE;
87      0087 1 |
88      0088 1 | BUILTIN
89      0089 1 | INSQUE, ! Insert entry onto a queue
90      0090 1 | REMQUE; ! Remove entry from a queue
91      0091 1 |
92      0092 1 | EXTERNAL ROUTINE
93      0093 1 | CHECK_REQUEST, ! Common sanity checks
94      0094 1 | CLUSMSG_CONV_CLM_RQCB, ! Convert cluster message to RQCB
95      0095 1 | CLUSMSG_RQCB_SEND, ! Send RQCB to remote nodes
96      0096 1 | DEALLOCATE_RQCB : NOVALUE, ! Dispose of an RQCB
97      0097 1 | DUMP_LOG_FILE, ! Format the message into the log file
98      0098 1 | FIND_OPERATOR, ! Find a given operator
99      0099 1 | FORMAT_MESSAGE, ! Format a given message
100     0100 1 | LOG_MESSAGE, ! Write a message to a logfile
101     0101 1 | NOTIFY_OPERATOR, ! Notify a single operator
102     0102 1 | NOTIFY_LISTED_OPERATORS, ! Notify a list of operators
103     0103 1 | SEND_REPLY, ! Send a reply to a request
104     0104 1 | VALID_OPERATOR; ! Check operator device
105     0105 1 |
106     0106 1 | EXTERNAL LITERAL
107     0107 1 | MIN_SCOPE, ! Minimum scope value
108     0108 1 | MAX_SCOPE; ! Maximum scope value
```



```
110 0109 1 GLOBAL ROUTINE REPLY_HANDLER (BUFFER_DESC) : NOVALUE =
111 0110 1
112 0111 1 ++
113 0112 1 Functional description:
114 0113 1
115 0114 1 This routine is the handler for all REPLY messages received by OPCOM.
116 0115 1
117 0116 1
118 0117 1 Input:
119 0118 1
120 0119 1 BUFFER_DESC : The address of a quadword buffer descriptor that
121 0120 1 describes the buffer containing the message.
122 0121 1
123 0122 1 Implicit Input:
124 0123 1
125 0124 1 None.
126 0125 1
127 0126 1 Output:
128 0127 1
129 0128 1 None.
130 0129 1
131 0130 1 Implicit output:
132 0131 1
133 0132 1 Some accounting data will be updated
134 0133 1 to reflect the receipt of the message.
135 0134 1
136 0135 1 Side effects:
137 0136 1
138 0137 1 None.
139 0138 1
140 0139 1 Routine value:
141 0140 1
142 0141 1 None.
143 0142 1 --
144 0143 1
145 0144 2 BEGIN ! Start of REPLY_HANDLER
146 0145 2
147 0146 2 MAP
148 0147 2 BUFFER_DESC : $ref_bblock;
149 0148 2
150 0149 2 LOCAL
151 0150 2 MESSAGE_VECTOR : VECTOR [5, LONG], ! Message info
152 0151 2 RQST : $ref_bblock, ! Request RQCB
153 0152 2 RQCB : $ref_bblock, ! Work RQCB
154 0153 2 OPER_RQCB : $ref_bblock, ! Operator RQCB
155 0154 2 MCB : $ref_bblock, ! MCB data structure
156 0155 2 OCD : $ref_bblock, ! OCD data structure
157 0156 2 MSG : $ref_bblock,
158 0157 2 MESSAGE : LONG, ! Holds message code
159 0158 2 RQST_COUNT : LONG, ! # of outstanding requests
160 0159 2 FOUND : LONG, ! Boolean
161 0160 2 STATUS : LONG;
162 0161 2
163 0162 2 !
164 0163 2 Check request size
165 0164 2
166 0165 3 IF .BUFFER_DESC [DSC$W_LENGTH] LSS (OPC$K_COMHDRSIZ + OPC$K_REPLY_MIN_SIZE)
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```
167 0166 2 THEN
168 0167 2 RETURN;
169 0168 2
170 0169 2 Do some common sanity checks.
171 0170 2
172 0171 2 IF NOT CHECK_REQUEST (.BUFFER_DESC, RQCB)
173 0172 2 THEN
174 0173 2 RETURN;
175 0174 2
176 0175 2 Make sure this is a valid operator. If not, ignore the request.
177 0176 2
178 0177 2 IF NOT VALID_OPERATOR (.BUFFER_DESC,.RQCB)
179 0178 2 THEN
180 0179 2 BEGIN
181 0180 2 DEALLOCATE_RQCB (.RQCB);
182 0181 2 RETURN;
183 0182 2 END;
184 0183 2
185 0184 2 Create a descriptor for the reply text, if any.
186 0185 2 MSG is pointer to the beginning of the ASCII text string.
187 0186 2 Note that the count is a word size.
188 0187 2
189 0188 2 MSG = .BUFFER_DESC [DSC$A_POINTER] + OPC$K_COMHDRSZ;
190 0189 2 MSG = .BUFFER_DESC [DSC$A_POINTER] + (OPC$K_COMHDRSZ + OPC$K_HDR_SIZE + .Sbblock [MSG [OPC$T_OPRENABLE_OPR]
191 0190 2 IF .MSG [0,0,16,0] GTR 0
192 0191 2 THEN
193 0192 2 BEGIN
194 0193 2 RQCB [RQCB_L_TEXT_LEN] = .MSG [0,0,16,0];
195 0194 2 IF NOT (STATUS = OPC$GET_VM (RQCB [RQCB_L_TEXT_LEN], RQCB [RQCB_L_TEXT_PTR]))
196 0195 2 THEN
197 0196 2 Ssignal_stop (.STATUS);
198 0197 2 CH$MOVE (.RQCB [RQCB_L_TEXT_LEN], MSG [2,0,0,0], .RQCB [RQCB_L_TEXT_PTR]);
199 0198 2 END;
200 0199 2
201 0200 2 Perform some more checks. These include:
202 0201 2 - The operator must be known to OPCOM
203 0202 2 - The reply must be valid
204 0203 2
205 0204 2 IF NOT FIND_OPERATOR (.RQCB, OPER RQCB)
206 0205 2 OR NOT (SELECTONE .RQCB [RQCB_L_RQ_OPTIONS] OF
207 0206 2 SET
208 0207 2 [OPC$_RQSTPEND] : TRUE; ! Valid reply status
209 0208 2 [OPC$_RQSTCPLTE] : TRUE; ! Valid reply status
210 0209 2 [OPC$_RQSTABORT] : TRUE; ! Valid reply status
211 0210 2 [OPC$_INITAPE] : TRUE; ! Valid reply status
212 0211 2 [OPC$_BLANKTAPE] : .Sbblock [RQCB [RQCB_L_PRIVMASK1], PRV$V_VOLPRO]; ! Valid if user has
213 0212 2 [OTHERWISE] : FALSE; ! All others are invalid
214 0213 2 TES)
215 0214 2 THEN
216 0215 2 BEGIN
217 0216 2 MESSAGE_VECTOR [0] = OPC$_ILLRQST; ! Set message code
218 0217 2 MESSAGE_VECTOR [1] = 0; ! Set message NARGS
219 0218 2 END
220 0219 2 ELSE
221 0220 2 BEGIN
222 0221 2
223 0222 2 ! Search through the requests queued to this OCD for the
```



```
224      0223 3      | specified request. This implies that an operator may
225      0224 3      | only influence requests of the same scope as the operator.
226      0225 3
227      0226 3      FOUND = FALSE;                                | Assume not found
228      0227 3      MESSAGE_VECTOR [0] = OPC$_NOSUCHRQST;        | Set message code
229      0228 3      MESSAGE_VECTOR [1] = 0;                      | Set message NARGS
230      0229 3      OCD = .OPER_RQCB [RQCB_L_OCD];                | Get OCD address
231      0230 3      RQST_COUNT = .OCD [OCD_W-RQSTCOUNT];        | Get # of requests
232      0231 3      RQST = .OCD [OCD_L-RQSTFLINK];                | Get first request address
233      0232 3      WHILE (NOT .FOUND) AND (.RQST_COUNT GTR 0) DO
234      0233 3          IF .RQCB [RQCB_L-RQSTID] NEQ .RQST [RQCB_L-RQSTNUM]
235      0234 3          THEN
236      0235 4              BEGIN
237      0236 4                  RQST_COUNT = .RQST_COUNT - 1;    | Decrement request count
238      0237 4                  RQST = .RQST [RQCB_L-FLINK];      | Get address of next request RQCB
239      0238 4              END
240      0239 3      ELSE
241      0240 4          BEGIN
242      0241 4              | We've found the request. If the operator has the privilege
243      0242 4              | to reply to this request, then format the reply text (if any)
244      0243 4              | and send the reply to the requestor.
245      0244 4              FOUND = TRUE;                          | Note that we found it
246      0245 4              IF (.Sbblock [RQCB [RQCB_L_PRIVMASK1], PRV$V OPER])
247      0246 4              OR ((.RQCB [RQCB_B_SCOPE] EQL OPC$K_GROUP) AND (.Sbblock [RQCB [RQCB_L_PRIVMASK1], PRV$V_GROUP])
248      0247 5              OR (.RQCB [RQCB_L_OIC] EQL .RQST [RQCB_L_UIC])
249      0248 5              THEN
250      0249 5                  BEGIN
251      0250 4                      MESSAGE_VECTOR [0] = .RQCB [RQCB_L_RQ_OPTIONS];
252      0251 5                      MESSAGE_VECTOR [1] = RQCB [RQCB_L_TEXT_LEN];
253      0252 5                      MESSAGE_VECTOR [2] = 0;
254      0253 5                      MESSAGE_VECTOR [3] = .RQCB [RQCB_L_RQSTID];
255      0254 5                      MESSAGE_VECTOR [4] = RQCB [RQCB_L_OPER_LEN];
256      0255 5                      FORMAT_MESSAGE (.RQCB, MESSAGE_VECTOR);
257      0256 5
258      0257 5                  | Attempt to notify the person
259      0258 5                  MCB = .RQST [RQCB_L_MCB];          | Save MCB address
260      0259 5                  RQST [RQCB_L_MCB] = .RQCB [RQCB_L_MCB]; | Set new MCB
261      0260 5                  IF NOT SEND_REPLY (.RQST)          | Send the reply
262      0261 5                  THEN
263      0262 5                      BEGIN
264      0263 6                          | The requestor could not be notified. This
265      0264 6                          | means that the requestor has implicitly canceled
266      0265 6                          | the request.
267      0266 6                          MESSAGE_VECTOR [0] = OPC$_RQSTCAN; | Set message code
268      0267 6                          MESSAGE_VECTOR [1] = 0;          | Set message Nargs
269      0268 6                          MESSAGE_VECTOR [2] = .RQCB [RQCB_L_RQSTID];
270      0269 6                          FORMAT_MESSAGE (.RQCB, MESSAGE_VECTOR);
271      0270 6                          END
272      0271 6                  | Able to reply, send it to everyone else in the cluster
273      0272 6
274      0273 6          ELSE
275      0274 6
276      0275 6
277      0276 6
278      0277 6
279      0278 6
280      0279 5
```



```
281      CLUSMSG_RQCB_SEND (-1, CLM__REPLY, .RQCB); ! Send it everywhere
282      RQST [RQCB_L_MCB] = .MCB; ! Restore the MCB
283      END
284      ELSE
285      BEGIN
286      : The operator did not have the privilege to reply to this request.
287      : Set up the message so that he will be notified that his was an
288      : illegal request.
289      :
290      : MESSAGE_VECTOR [0] = OPC$_ILLRQST; ! Set message code
291      : MESSAGE_VECTOR [1] = 0; ! Set message NARGS
292      :
293      : END;
294      :
295      : END;
296      :
297      : Finish processing. Decide what to do based on the message code.
298      :
299      : SELECTONE .MESSAGE_VECTOR [0] OF
300      : SET
301      : [OPC$_ILLRQST,
302      : OPC$_NOSUCHRQST] : BEGIN
303      : : Inform the operator that the reply failed.
304      : :
305      : : FORMAT_MESSAGE (.RQCB, MESSAGE_VECTOR);
306      : : NOTIFY_OPERATOR (.RQCB);
307      : : END;
308      :
309      : [OPC$_RQSTPEND] : BEGIN
310      : : Log the message. Set the interest mask so that
311      : : the message is logged properly.
312      : :
313      : : RQCB [RQCB_L_ATTNUMASK1] = .RQST [RQCB_L_ATTNUMASK1];
314      : : RQCB [RQCB_L_ATTNUMASK2] = .RQST [RQCB_L_ATTNUMASK2];
315      : : LOG_MESSAGE (.RQCB);
316      : : END;
317      :
318      : [OPC$_RQSTCAN,
319      : OPC$_RQSTABORT,
320      : OPC$_INITAPE,
321      : OPC$_BLANKTAPE,
322      : OPC$_RQSTCMPLTE] : BEGIN
323      : : The request must be removed from the OCD's list, and the operators must be
324      : : notified. Set the replier's interest mask so that the interested
325      : : operators will be notified.
326      : :
327      : : RQCB [RQCB_L_ATTNUMASK1] = .RQST [RQCB_L_ATTNUMASK1];
328      : : RQCB [RQCB_L_ATTNUMASK2] = .RQST [RQCB_L_ATTNUMASK2];
329      : : REMQUE (.RQST, RQST);
330      : : OCD = .RQST [RQCB_L_OCD];
331      : : OCD [OCD_W_RQSTCOUNT] = .OCD [OCD_W_RQSTCOUNT] - 1;
332      : : DEALLOCATE_RQCB (.RQST);
333      : :
334      : : Log and notify
335      : :
336      : :
337      : :
```

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0338
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1
TES;
DEALLOCATE_RQCB (.RQCB);
RETURN;
END;

```

```
LOG MESSAGE (.RQCB);
NOTIFY_LISTED_OPERATORS (.RQCB);
END;
```

```
! End of REPLY_HANDLER
```

.TITLE OPC\$OPCOMRPLY
.IDENT \V04-000\

```
.EXTRN CHECK_REQUEST, CLUSMSG_CONV_CLM_RQCB
.EXTRN CLUSMSG_RQCB_SEND
.EXTRN DEALLOCATE_RQCB
.EXTRN DUMP_LOG_FILE, FIND_OPERATOR
.EXTRN FORMAT_MESSAGE, LOG_MESSAGE
.EXTRN NOTIFY_OPERATOR
.EXTRN NOTIFY_LISTED_OPERATORS
.EXTRN SEND_REPLY, VALID_OPERATOR
.EXTRN MIN_SCOPE, MAX_SCOPE
.EXTRN OPC$GET_VM, LIB$STOP
```

```
.PSECT $CODE$,NOWRT,2
```

```

.ENTRY  REPLY_HANDLER, Save R2,R3,R4,R5,R6,R7,R8
MOVAB   FORMAT_MESSAGE, R8

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```

SUBL2      #28, SP
MOVL       BUFFER_DESC, R3
CMPW       (R3), #70
BGEQU      1$

```

```

PUSHR    #^M<R3,SP>
CALLS    #2, CHECK_REQUEST
BLBS     R0, 2$

```

```

MOV#  RQCB, R6
PUSH#  #*M<R3, R6>
CALLS  #2, VALID_OPERATOR
BLBS   R0, 3$

```

```

PUSHL    R6
BRW      23$
ADDL3    #38, 4(R3) MSG
MOVZBL   26(MSG), R0
ADDL3    4(R3), R0, R3
MOVAB    65(R3), MSG
TSTW     (MSG)

```

MOVAB 132(R6), R3
MOVZWL (MSG), (R3)
PUSHAB 136(R6)

PUSH CALLS BLBS RS #2, OPC\$GET_VM STATUS, 4\$ -

				01FC	00000	.ENTRY	REPLY HANDLER, Save R2,R3,R4,R5,R6,R7,R8	: 0109
	58	0000G	CF	9E	00002	MOVAB	FORMAT MESSAGE, R8	:
	5E		1C	C2	00007	SUBL2	#28, SP	:
	53	04	AC	D0	0000A	MOVL	BUFFER DESC, R3	: 0165
0046	8F		63	B1	0000E	CMPW	(R3), #70	:
			01	1E	00013	BGEQU	1\$	:
				04	00015	RET		:
		4008	8F	BB	00016	PUSHR	#^M<R3,SP>	: 0171
0000G	CF		02	FB	0001A	CALLS	#2, CHECK_REQUEST	:
	01		50	E8	0001F	BLBS	R0, 2\$	:
				04	00022	RET		:
	56		6E	D0	00023	MOVL	RQCB, R6	: 0177
		0048	8F	BB	00026	PUSHR	#^M<R3,R6>	:
0000G	CF		02	FB	0002A	CALLS	#2, VALID_OPERATOR	:
	05		50	E8	0002F	BLBS	R0, 3\$	:
			56	DD	00032	PUSHL	R6	: 0180
			01D7	31	00034	BRW	23\$	:
52	04	A3	26	C1	00037	ADDL3	#38, 4(R3) MSG	: 0188
		1A	A2	9A	0003C	MOVZBL	26(MSG), R0	: 0189
53		04	A3	C1	00040	ADDL3	4(R3), R0, R3	:
	52	41	A3	9E	00045	MOVAB	65(R3), MSG	:
			62	B5	00049	TSTW	(MSG)	: 0190
			27	13	0004B	BEQL	5\$	:
	53	0084	C6	9E	0004D	MOVAB	132(R6), R3	: 0193
	63		62	3C	00052	MOVZWL	(MSG), (R3)	:
		0088	C6	9F	00055	PUSHAB	136(R6)	: 0194
			53	DD	00059	PUSHL	R3	:
0000G	CF		02	FB	0005B	CALLS	#2, OPC\$GET_VM	:
	0A		50	E8	00060	BLBS	STATUS, 4\$	:

				50	DD	00063	PUSHL	STATUS		0196
				01	FB	00065	CALLS	#1, LIB\$STOP		
					04	0006C	RET			
0088	D6	02	A2	63	28	0006D	4\$: MOVCL	(R3), 2(MSG), @136(R6)		0197
				AE	9F	00074	5\$: PUSHAB	OPER_RQCB		0204
			04	56	DD	00077	PUSHL	R6		
		0000G	CF	02	FB	00079	CALLS	#2, FIND_OPERATOR		
			36	50	E9	0007E	BLBC	R0, 6\$		
			50	A6	D0	00081	MOVL	88(R6), R0		0205
		00058021	8F	50	D1	00085	CMPL	R0, #360481		0207
				37	13	0008C	BEQL	8\$		
		00058029	8F	50	D1	0008E	CMPL	R0, #360489		0208
				2E	13	00095	BEQL	8\$		
		0005801C	8F	50	D1	00097	CMPL	R0, #360476		0209
				25	13	0009E	BEQL	8\$		
		000581D3	8F	50	D1	000A0	CMPL	R0, #360915		0210
				1C	13	000A7	BEQL	8\$		
		000581E3	8F	50	D1	000A9	CMPL	R0, #360931		0211
				05	12	000B0	BNEQ	6\$		
OE	32	A6		05	E0	000B2	BBS	#5, 50(R6), 8\$		
	08	AE	0005807C	8F	D0	000B7	6\$: MOVL	#360572, MESSAGE_VECTOR		0216
			0C	AE	D4	000BF	CLRL	MESSAGE_VECTOR+4		0217
				00B8	31	000C2	7\$: BRW	17\$		0204
				53	D4	000C5	8\$: CLRL	FOUND		0226
	08	AE	00058044	8F	D0	000C7	MOVL	#360516, MESSAGE_VECTOR		0227
			0C	AE	D4	000CF	CLRL	MESSAGE_VECTOR+4		0228
		50		04	AE	D0	000D2	MOVL	OPER_RQCB, R0	0229
		54		A0	D0	000D6	MOVL	36(R0), OCD		
		55		A4	3C	000DA	MOVZWL	58(OCD), RQST_COUNT		0230
		52		A4	D0	000DE	MOVL	60(OCD), RQST		0231
		DD		53	E8	000E2	9\$: BLBS	FOUND, 7\$		0232
				55	D5	000E5	TSTL	RQST_COUNT		
				D9	15	000E7	BLEQ	7\$		
	70	A2		64	A6	D1	000E9	CMPL	100(R6), 112(RQST)	0233
					07	13	000EE	BEQL	11\$	
					55	D7	000F0	DECL	RQST_COUNT	0236
		52			62	D0	000F2	MOVL	(RQST), RQST	0237
					EB	11	000F5	10\$: BRB	9\$	0233
		53			01	D0	000F7	11\$: MOVL	#1, FOUND	0246
11	32	A6			02	E0	000FA	BBS	#2, 50(R6), 13\$	0247
		02		53	A6	91	000FF	CMPB	83(R6), #2	0248
					04	12	00103	BNEQ	12\$	
		07		31	A6	E8	00105	BLBS	49(R6), 13\$	
	68	A2		68	A6	D1	00109	12\$: CMPL	104(R6), 104(RQST)	0249
					5F	12	0010E	BNEQ	16\$	
	08	AE		58	A6	D0	00110	13\$: MOVL	88(R6), MESSAGE_VECTOR	0252
	0C	AE	0084	C6	9E	00115	MOVAB	132(R6), MESSAGE_VECTOR+4		0253
			10	AE	D4	0011B	CLRL	MESSAGE_VECTOR+8		0254
	14	AE		64	A6	D0	0011E	MOVL	100(R6), MESSAGE_VECTOR+12	0255
	18	AE		7C	A6	9E	00123	MOVAB	124(R6), MESSAGE_VECTOR+16	0256
				08	AE	9F	00128	PUSHAB	MESSAGE_VECTOR	0257
					56	DD	0012B	PUSHL	R6	
		68			02	FB	0012D	CALLS	#2, FORMAT_MESSAGE	
		57		6C	A2	D0	00130	MOVL	108(RQST), MCB	0261
	6C	A2		6C	A6	D0	00134	MOVL	108(R6), 108(RQST)	0262
					52	DD	00139	PUSHL	RQST	0263
		0000G	CF		01	FB	0013B	CALLS	#1, SEND_REPLY	

08	1A	00058084	50	E8	00140	BLBS	R0, 14\$	:	0271
	AE	OC	8F	D0	00143	MOVL	#360580, MESSAGE_VECTOR	:	0272
10	AE	64	AE	D4	0014B	CLRL	MESSAGE_VECTOR+4	:	0273
		08	A6	D0	0014E	MOVL	100(R6), MESSAGE_VECTOR+8	:	0274
			AE	9F	00153	PUSHAB	MESSAGE_VECTOR	:	
	68		56	DD	00156	PUSHL	R6	:	
			02	FB	00158	CALLS	#2, FORMAT_MESSAGE	:	
			OC	11	0015B	BRB	15\$	:	0263
			56	DD	0015D	PUSHL	R6	:	0280
			OC	DD	0015F	PUSHL	#12	:	
	7E		01	CE	00161	MNEGL	#1, -(SP)	:	
0000G	CF		03	FB	00164	CALLS	#3, CLUSMSG_RQCB_SEND	:	
6C	A2		57	D0	00169	MOVL	MCB, 108(RQST)	:	0281
			86	11	0016D	BRB	10\$	:	0247
08	AE	0005807C	8F	D0	0016F	MOVL	#360572, MESSAGE_VECTOR	:	0290
		OC	AE	D4	00177	CLRL	MESSAGE_VECTOR+4	:	0291
			FF65	31	0017A	BRW	9\$	:	0233
00058044	53	08	AE	D0	0017D	MOVL	MESSAGE_VECTOR, R3	:	0298
	8F		53	D1	00181	CMPL	R3, #360516	:	0300
0005807C	8F		09	13	00188	BEQL	18\$	:	
			53	D1	0018A	CMPL	R3, #360572	:	
			11	12	00191	BNEQ	19\$	:	
		08	AE	9F	00193	PUSHAB	MESSAGE_VECTOR	:	0305
			56	DD	00196	PUSHL	R6	:	
	68		02	FB	00198	CALLS	#2, FORMAT_MESSAGE	:	
			56	DD	0019B	PUSHL	R6	:	0306
0000G	CF		01	FB	0019D	CALLS	#1, NOTIFY_OPERATOR	:	
			68	11	001A2	BRB	22\$	:	0298
00058021	8F		53	D1	001A4	CMPL	R3, #360481	:	0309
			0E	12	001AB	BNEQ	20\$	:	
5C	A6	5C	A2	7D	001AD	MOVQ	92(RQST), 92(R6)	:	0314
			56	DD	001B2	PUSHL	R6	:	0316
0000G	CF		01	FB	001B4	CALLS	#1, LOG_MESSAGE	:	
			51	11	001B9	BRB	22\$	:	0298
0005801C	8F		53	D1	001BB	CMPL	R3, #360476	:	0319
			24	13	001C2	BEQL	21\$	:	
00058029	8F		53	D1	001C4	CMPL	R3, #360489	:	
			1B	13	001CB	BEQL	21\$	:	
00058084	8F		53	D1	001CD	CMPL	R3, #360580	:	
			12	13	001D4	BEQL	21\$	:	
000581D3	8F		53	D1	001D6	CMPL	R3, #360915	:	
			09	13	001DD	BEQL	21\$	:	
000581E3	8F		53	D1	001DF	CMPL	R3, #360931	:	
			24	12	001E6	BNEQ	22\$	:	
5C	A6	5C	A2	7D	001E8	MOVQ	92(RQST), 92(R6)	:	0329
	52		62	0F	001ED	REMQUE	(RQST), RQST	:	0331
	54	24	A2	D0	001F0	MOVL	36(RQST), OCD	:	0332
		3A	A4	B7	001F4	DECW	58(OCD)	:	0333
			52	DD	001F7	PUSHL	RQST	:	0334
0000G	CF		01	FB	001F9	CALLS	#1, DEALLOCATE_RQCB	:	
			6E	DD	001FE	PUSHL	RQCB	:	0338
0000G	CF		01	FB	00200	CALLS	#1, LOG_MESSAGE	:	
			6E	DD	00205	PUSHL	RQCB	:	0339
0000G	CF		01	FB	00207	CALLS	#1, NOTIFY_LISTED_OPERATORS	:	
			6E	DD	0020C	PUSHL	RQCB	:	0343
0000G	CF		01	FB	0020E	CALLS	#1, DEALLOCATE_RQCB	:	0346
			04	00213	RET			:	

OPCSOPCOMRPLY
V04-000

F 12
16-Sep-1984 01:35:42
14-Sep-1984 12:50:50

VAX-11 Bliss-32 V4.0-742
[OPCOM.SRC]OPCOMRPLY.B32;1

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; Routine Size: 532 bytes, Routine Base: \$CODE\$ + 0000

OPC
V04

```
349 0347 1 GLOBAL ROUTINE REPLY_CLM_HANDLER (BUFFER_DESC : $ref_bblock, CLM : $ref_bblock, LEN) : NOVALUE =
350 0348 1
351 0349 1 ++
352 0350 1 Functional description:
353 0351 1
354 0352 1 This routine is the handler for all REPLY messages received by OPCOM from remote nodes.
355 0353 1
356 0354 1 Input:
357 0355 1
358 0356 1 BUFFER_DESC - pointer to message from remote node, including $SENDPR header
359 0357 1 CLM - pointer to CLMRQCB structure
360 0358 1 LEN - length of LEN
361 0359 1
362 0360 1 Implicit Input:
363 0361 1
364 0362 1 None.
365 0363 1
366 0364 1 Output:
367 0365 1
368 0366 1 None.
369 0367 1
370 0368 1 Implicit output:
371 0369 1
372 0370 1 Some accounting data will be updated
373 0371 1 to reflect the receipt of the message.
374 0372 1
375 0373 1 Side effects:
376 0374 1
377 0375 1 None.
378 0376 1
379 0377 1 Routine value:
380 0378 1
381 0379 1 None.
382 0380 1
383 0381 1 --
384 0382 1
385 0383 2 BEGIN ! Start of REPLY_CLM_HANDLER
386 0384 2
387 0385 2 LOCAL
388 0386 2 RQST : $ref_bblock, ! Request RQCB
389 0387 2 RQCB : $ref_bblock, ! Work RQCB
390 0388 2 OPER_RQCB : $ref_bblock, ! Operator RQCB
391 0389 2 MCB : $ref_bblock, ! MCB data structure
392 0390 2 OCD : $ref_bblock, ! OCD data structure
393 0391 2 MSG : $ref_bblock, !
394 0392 2 MESSAGE : LONG, ! Holds message code
395 0393 2 RQST_COUNT : LONG, ! # of outstanding requests
396 0394 2 STATUS : LONG;
397 0395 2
398 0396 2
399 0397 2 Check the version number of the message. If the message is from any other version,
400 0398 2 simply ignore it.
401 0399 2
402 0400 2 IF .CLM [CLM_B_DS_VERSION] NEQ CLMRQCB_K_DS_VERSION
403 0401 2 THEN
404 0402 2 RETURN DUMP_LOG_FILE (.BUFFER_DESC, %ASCID 'CLM_x mismatch');
405 0403 2 !
```



```

: 406      0404 2  ! Allocate an RQCB and convert the message RQCB into the new RQCB
: 407      0405 2  !
: 408      0406 2  IF NOT CLUSMSG_CONV_CLM_RQCB (.CLM, RQCB)
: 409      0407 2  THEN
: 410      0408 2  RETURN DUMP_LOG_FILE (.BUFFER_DESC, ascid_INVALIDRQCB);
: 411      0409 2  !
: 412      0410 2  ! Perform some more checks. These include:
: 413      0411 2  ! - The operator must be known to OPCOM
: 414      0412 2  ! - The reply must be valid
: 415      0413 2  !
: 416      0414 2  IF NOT FIND_OPERATOR (.RQCB, OPER_RQCB)
: 417      0415 2  THEN
: 418      0416 2  BEGIN
: 419      0417 2  DUMP_LOG_FILE (.BUFFER_DESC, %ASCID 'reply operator not found');
: 420      0418 2  DEALLOCATE_RQCB (.RQCB);
: 421      0419 2  RETURN;
: 422      0420 2  END;
: 423      0421 2  !
: 424      0422 2  ! Search through the requests queued to this OCD for the
: 425      0423 2  ! specified request. This implies that an operator may
: 426      0424 2  ! only influence requests of the same scope as the operator.
: 427      0425 2  !
: 428      0426 2  OCD = .OPER_RQCB [RQCB_L_OCD];          ! Get OCD address
: 429      0427 2  RQST = .OCD [OCD_L_RQSTFLINK];          ! Get first request address
: 430      0428 2  WHILE .RQST NEQ OCD [OCD_L_RQSTFLINK] DO
: 431      0429 2  BEGIN
: 432      0430 2  IF .RQCB [RQCB_L_RQSTID] NEQ .RQST [RQCB_L_RQSTNUM]
: 433      0431 2  THEN
: 434      0432 2  RQST = .RQST [RQCB_L_FLINK]          ! Get address of next request RQCB
: 435      0433 2  ELSE
: 436      0434 2  BEGIN
: 437      0435 2  !
: 438      0436 2  ! We've found the request. If the operator has the privilege
: 439      0437 2  ! to reply to this request, then format the reply text (if any)
: 440      0438 2  ! and send the reply to the requestor.
: 441      0439 2  !
: 442      0440 2  MCB = .RQST [RQCB_L_MCB];          ! Save MCB address
: 443      0441 2  RQST [RQCB_L_MCB] = .RQCB [RQCB_L_MCB]; ! Set new MCB
: 444      0442 2  SEND_REPLY (.RQST);          ! Send the reply
: 445      0443 2  RQST [RQCB_L_MCB] = .MCB;          ! Restore the MCB
: 446      0444 2  EXITLOOP;
: 447      0445 2  END;
: 448      0446 2  END;
: 449      0447 2  !
: 450      0448 2  ! Request not found, oh well
: 451      0449 2  !
: 452      0450 2  IF .RQST EQL OCD [OCD_L_RQSTFLINK]
: 453      0451 2  THEN
: 454      0452 2  BEGIN
: 455      0453 2  DUMP_LOG_FILE (.BUFFER_DESC, %ASCID 'reply request not found');
: 456      0454 2  DEALLOCATE_RQCB (.RQCB);
: 457      0455 2  RETURN;
: 458      0456 2  END;
: 459      0457 2  !
: 460      0458 2  ! Finish processing. Decide what to do based on the message code.
: 461      0459 2  !
: 462      0460 2  IF (MCB = .RQCB [RQCB_L_MCB]) NEQ 0
```

```

: 463      0461 2 THEN
: 464      0462 3 BEGIN
: 465      0463 3 SELECTONE .MCB [MCB_L_MSGID] OF
: 466      0464 3 SET
: 467      0465 4 [OPCS_RQSTPEND] : BEGIN
: 468      0466 4
: 469      0467 4 | Log the message. Set the interest mask so that
: 470      0468 4 | the message is logged properly.
: 471      0469 4
: 472      0470 4 RQCB [RQCB_L_ATTNMASK1] = .RQST [RQCB_L_ATTNMASK1];
: 473      0471 4 RQCB [RQCB_L_ATTNMASK2] = .RQST [RQCB_L_ATTNMASK2];
: 474      0472 4 LOG MESSAGE (.RQCB);
: 475      0473 3 END;
: 476      0474 3
: 477      0475 3 [OPCS_RQSTCAN,
: 478      0476 3 OPCS_RQSTABORT,
: 479      0477 3 OPCS_INITAPE,
: 480      0478 3 OPCS_BLANKTAPE,
: 481      0479 4 OPCS_RQSTCMPLT] : BEGIN
: 482      0480 4
: 483      0481 4 | The request must be removed from the OCD's list,
: 484      0482 4 | and the operators must be notified. Set the
: 485      0483 4 | replier's interest mask so that the interested
: 486      0484 4 | operators will be notified.
: 487      0485 4
: 488      0486 4 RQCB [RQCB_L_ATTNMASK1] = .RQST [RQCB_L_ATTNMASK1];
: 489      0487 4 RQCB [RQCB_L_ATTNMASK2] = .RQST [RQCB_L_ATTNMASK2];
: 490      0488 4 REMQUE (.RQST, RQST);
: 491      0489 4 OCD = .RQST [RQCB_L_OCD];
: 492      0490 4 OCD [OCD_W_RQSTCOUNT] = .OCD [OCD_W_RQSTCOUNT] - 1;
: 493      0491 4 DEALLOCATE_RQCB (.RQST);
: 494      0492 4 LOG MESSAGE (.RQCB);
: 495      0493 4 NOTIFY_LISTED_OPERATORS (.RQCB);
: 496      0494 3 END;
: 497      0495 3 [OTHERWISE] : DUMP_LOG_FILE (.BUFFER_DESC, %ASCII 'unexpected status for reply');
: 498      0496 3 TES;
: 499      0497 3 END
: 500      0498 3 | What, no MCB on the message! Bogus
: 501      0499 3
: 502      0500 3
: 503      0501 2 ELSE
: 504      0502 2 DUMP_LOG_FILE (.BUFFER_DESC, %ASCII 'no MCB on reply message');
: 505      0503 2
: 506      0504 2 DEALLOCATE_RQCB (.RQCB);
: 507      0505 2
: 508      0506 2 RETURN;
: 509      0507 1 END;

```

! End of REPLY_CLM_HANDLER

```

.PSECT $SPLITS,NOWRT,NOEXE,2
68 63 74 61 6D 73 69 6D 20 78 5F 5F 4D 4C 43 00000 P.AAB: .ASCII \CLM_x mismatch\<0>
                                00 0000F
                                010E000F 00010 P.AAA: .LONG 17694735
                                00000000 00014 .ADDRESS P.AAB
20 72 6F 74 61 72 65 70 6F 20 79 6C 70 65 72 00018 P.AAD: .ASCII \reply operator not found\

```



```

        64 6E 75 6F 66 20 74 6F 6E 00027
        010E0018 00030 P.AAC: .LONG 17694744
        00000000' 00034 .ADDRESS P.AAD
6E 20 74 73 65 75 71 65 72 20 79 6C 70 65 72 00038 P.AAF: .ASCII \reply request not found\<0>
        00 64 6E 75 6F 66 20 74 6F 00047
        010E0017 00050 P.AAE: .LONG 17694743
        00000000' 00054 .ADDRESS P.AAF
74 61 74 73 20 64 65 74 63 65 70 78 65 6E 75 00058 P.AAH: .ASCII \unexpected status for reply\<0>
        00 79 6C 70 65 72 20 65 72 20 72 6F 66 20 73 75 00067
        010E001B 00074 P.AAG: .LONG 17694747
        00000000' 00078 .ADDRESS P.AAH
79 6C 70 65 72 20 6E 6F 20 42 43 4D 20 6F 6E 0007C P.AAJ: .ASCII \no MCB on reply message\<0>
        00 65 67 61 73 73 65 6D 20 0008B
        010E0017 00094 P.AAI: .LONG 17694743
        00000000' 00098 .ADDRESS P.AAJ

```

.EXTRN ASCID_INVALIDRQCB

.PSECT \$CODE\$,NOWRT,2

```

                                007C 00000
                                CF 9E 00002
56 0000G 08 C2 00007
5E 08 AC D0 0000A
52 02 A2 91 0000E
02 06 13 00012
                                CF 9F 00014
                                10 11 00018
0000G 4004 8F BB 0001A 1$:
                                02 FB 0001E
                                50 E8 00023
                                CF 9F 00026
0000G 04 AC DD 0002A 2$:
                                02 FB 0002D
                                04 04 00030
                                04 AE 9F 00031 3$:
53 04 AE D0 00034
                                53 DD 00038
0000G CF 02 FB 0003A
06 50 E8 0003F
                                CF 9F 00042
                                42 11 00046
                                04 AE D0 00048 4$:
50 24 A0 D0 0004C
54 3C A4 D0 00050
52 3C A4 9E 00054 5$:
50 52 D1 00058
                                20 13 0005B
70 A2 64 A3 D1 0005D
                                05 13 00062
52 62 D0 00064
                                EB 11 00067
                                6C A2 D0 00069 6$:
6C A2 6C A3 D0 0006D
                                52 DD 00072
0000G CF 01 FB 00074
6C A2 55 D0 00079
                                MOVAB DUMP LOG_FILE, R6
                                SUBL2 #8, SP
                                MOVL CLM, R2
                                CMPB 2(R2), #2
                                BEQL 1$
                                PUSHAB P.AAA
                                BRB 2$
                                PUSHB #M<R2, SP>
                                CALLS #2, CLUSMSG_CONV_CLM_RQCB
                                BLBS R0, 3$
                                PUSHAB ASCID_INVALIDRQCB
                                PUSHB BUFFER_DESC
                                CALLS #2, DUMP_LOG_FILE
                                RET
                                PUSHAB OPER_RQCB
                                MOVL RQCB, R3
                                PUSHB R3
                                CALLS #2, FIND_OPERATOR
                                BLBS R0, 4$
                                PUSHAB P.AAC
                                BRB 8$
                                MOVL OPER_RQCB, R0
                                MOVL 36(R0), OCD
                                MOVL 60(OCD), RQST
                                MOVAB 60(OCD), R0
                                CMPL RQST, R0
                                BEQL 7$
                                CMPL 100(R3), 112(RQST)
                                BEQL 6$
                                MOVL (RQST), RQST
                                BRB 5$
                                MOVL 108(RQST), MCB
                                MOVL 108(R3), 108(RQST)
                                PUSHB RQST
                                CALLS #1, SEND_REPLY
                                MOVL MCB, 108(RQST)

```

50	3C	A4	9E	0007D	7\$:	MOVAB	60(OCD), R0	0450
50		52	D1	00081		CMPL	RQST, R0	
		0F	12	00084		BNEQ	9\$	
	0000'	CF	9F	00086		PUSHAB	P.AAE	0453
	04	AC	DD	0008A	8\$:	PUSHL	BUFFER DESC	
66		02	FB	0008D		CALLS	#2, DUMP_LOG_FILE	
		53	DD	00090		PUSHL	R3	0454
		0086	31	00092		BRW	16\$	
55	6C	A3	D0	00095	9\$:	MOVL	108(R3), MCB	0460
		74	13	00099		BEQL	13\$	
00058021	50	2C	A5	D0	0009B	MOVL	44(MCB), R0	0463
	8F		50	D1	0009F	CMPL	R0, #360481	0465
	5C	A3	0E	12	000A6	BNEQ	10\$	
		5C	A2	7D	000A8	MOVQ	92(RQST), 92(R3)	0470
			53	DD	000AD	PUSHL	R3	0472
0000G	CF		01	FB	000AF	CALLS	#1, LOG_MESSAGE	
			63	11	000B4	BRB	15\$	0463
0005801C	8F		50	D1	000B6	CMPL	R0, #360476	0475
			24	13	000BD	BEQL	11\$	
00058029	8F		50	D1	000BF	CMPL	R0, #360489	
			1B	13	000C6	BEQL	11\$	
00058084	8F		50	D1	000C8	CMPL	R0, #360580	
			12	13	000CF	BEQL	11\$	
000581D3	8F		50	D1	000D1	CMPL	R0, #360915	
			09	13	000D8	BEQL	11\$	
000581E3	8F		50	D1	000DA	CMPL	R0, #360931	
			26	12	000E1	BNEQ	12\$	
	5C	A3	5C	A2	7D	MOVQ	92(RQST), 92(R3)	0486
		52		62	0F	REMQUE	(RQST), RQST	0488
		54	24	A2	D0	MOVL	36(RQST), OCD	0489
			3A	A4	B7	DECW	58(OCD)	0490
				52	DD	PUSHL	RQST	0491
0000G	CF		01	FB	000F4	CALLS	#1, DEALLOCATE_RQCB	
			6E	DD	000F9	PUSHL	RQCB	0492
0000G	CF		01	FB	000FB	CALLS	#1, LOG_MESSAGE	
			6E	DD	00100	PUSHL	RQCB	0493
0000G	CF		01	FB	00102	CALLS	#1, NOTIFY_LISTED_OPERATORS	
			10	11	00107	BRB	15\$	0463
		0000'	CF	9F	00109	PUSHAB	P.AAG	0495
			04	11	0010D	BRB	14\$	
		0000'	CF	9F	0010F	PUSHAB	P.AAI	0502
		04	AC	DD	00113	PUSHL	BUFFER DESC	
	66		02	FB	00116	CALLS	#2, DUMP_LOG_FILE	
			6E	DD	00119	PUSHL	RQCB	0504
0000G	CF		01	FB	0011B	CALLS	#1, DEALLOCATE_RQCB	
			04	00120	RET			0507

; Routine Size: 289 bytes, Routine Base: \$CODE\$ + 0214

OPC\$OPCOMRPLY
V04-000

L 12
16-Sep-1984 01:35:42 VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:50:50 [OPCOM.SRC]OPCOMRPLY.B32;1

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: 511 0508 1 END
: 512 0509 0 ELUDOM

! End of OPCOMRPLY

PSECT SUMMARY

Name	Bytes	Attributes
\$CODE\$	821 NOVEC,NOWRT, RD , EXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)	
\$PLIT\$	156 NOVEC,NOWRT, RD ,NOEXE,NOSHR, LCL, REL, CON,NOPIC,ALIGN(2)	

Library Statistics

File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
\$255\$DUA28:[SYSLIB]LIB.L32;1	18619	14	0	1000	00:01.9
-\$255\$DUA28:[OPCOM.OBJ]OPCOMLIB.L32;1	633	31	4	43	00:01.0

COMMAND QUALIFIERS

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

: Size: 821 code + 156 data bytes
: Run Time: 00:17.5
: Elapsed Time: 00:46.5
: Lines/CPU Min: 1741
: Lexemes/CPU-Min: 15075
: Memory Used: 168 pages
: Compilation Complete

0290 AH-BT13A-SE
VAX/VMS V4.0

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