


```
RRRRRRRR  MM      MM      000000  RRRRRRRR  CCCCCCCC  LL      CCCCCCCC  KK      KK      222222
RRRRRRRR  MM      MM      000000  RRRRRRRR  CCCCCCCC  LL      CCCCCCCC  KK      KK      222222
RR      RR  MMMM  MMMM  00      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22      22
RR      RR  MMMM  MMMM  00      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22      22
RR      RR  MM      MM      00      0000  RR      RR  CC      CC      LL      CC      CC      KK      KK      22      22
RR      RR  MM      MM      00      0000  RR      RR  CC      CC      LL      CC      CC      KK      KK      22      22
RRRRRRRR  MM      MM      00      00      00  RRRRRRRR  CC      CC      LL      CC      CC      KKKKKK      22
RRRRRRRR  MM      MM      00      00      00  RRRRRRRR  CC      CC      LL      CC      CC      KKKKKK      22
RR      RR  MM      MM      0000      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22
RR      RR  MM      MM      0000      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22
RR      RR  MM      MM      00      00      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22
RR      RR  MM      MM      00      00      00  RR      RR  CC      CC      LL      CC      CC      KK      KK      22
RR      RR  MM      MM      000000  RR      RR  CCCCCCCC  LLLLLLLLLL  CCCCCCCC  KK      KK      2222222222
RR      RR  MM      MM      000000  RR      RR  CCCCCCCC  LLLLLLLLLL  CCCCCCCC  KK      KK      2222222222
```

```
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 MODULE RMORCLCK2(
2 0002 0 LANGUAGE (BLISS32),
3 0003 0 IDENT = 'V04-000'
4 0004 0 ) =
5 0005 1 BEGIN
6 0006 1
7 0007 1
8 0008 1 *****
9 0009 1 *
10 0010 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY *
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25 0025 1 * DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE OR RELIABILITY OF ITS *
26 0026 1 * SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL. *
27 0027 1 *
28 0028 1 *
29 0029 1 *****
30 0030 1
31 0031 1 ++
32 0032 1
33 0033 1 FACILITY:
34 0034 1
35 0035 1 VAX-11 RMS
36 0036 1
37 0037 1 ABSTRACT:
38 0038 1
39 0039 1 This module contains record locking related routines, specifically
40 0040 1 timeout on record lock support.
41 0041 1
42 0042 1 ENVIRONMENT:
43 0043 1
44 0044 1 VAX/VMS Operating System, executive mode
45 0045 1 --
46 0046 1
47 0047 1 AUTHOR: David Solomon, CREATION DATE: 16-Feb-1983
48 0048 1
49 0049 1 MODIFIED BY:
50 0050 1
51 0051 1 V03-004 DAS0001 David Solomon 28-Feb-1984
52 0052 1 Use ISAM BUG_CHECK macro for bugcheck. Also, remove unnecessary
53 0053 1 code to set and clear PIO$V_INHAST.
54 0054 1
55 0055 1 V03-003 SHZ0002 Stephen H. Zalewski 26-Apr-1983
56 0056 1 Change PSECT attributes for this module.
57 0057 1
```

RMORCLCK2
V04-000

6 9
16-Sep-1984 02:13:17
14-Sep-1984 13:00:51

VAX-11 Bliss-32 V4.0-742
[RMS.SRC]RMORCLCK2.B32;1

Page 2
(1)

: 58
: 59
: 60
: 61
: 62
: 63
: 64
: 65
: 0058 1 :
: 0059 1 :
: 0060 1 :
: 0061 1 :
: 0062 1 :
: 0063 1 :
: 0064 1 :
: 0065 1 :--

V03-002 MCN0001 Maria del C. Nasr
Reorganize linkages

22-Mar-1983

V03-001 SHZ0001 Stephen H. Zalewski
Changed name of module from rm0reclck2 to rm0rclck2 so that
when linking we pick up the correct module name.

24-Feb-1983

RM
VO


```

67 0066 1 |
68 0067 1 | INCLUDE FILES:
69 0068 1 |
70 0069 1 |
71 0070 1 | LIBRARY
72 0071 1 | 'RMSLIB:RMSINTDEF'
73 0072 1 | ;
74 0073 1 |
75 0074 1 | LIBRARY
76 0075 1 | 'SYSSLIBRARY:STARLET'
77 0076 1 | ;
78 0077 1 |
79 0078 1 | SWITCHES
80 0079 1 | ADDRESSING_MODE( EXTERNAL = GENERAL )
81 0080 1 | ;
82 0081 1 |
83 0082 1 | PSECT
84 0083 1 | CODE = RMSRMS0(PSECT_ATTR),
85 0084 1 | PLIT = RMSRMS0(PSECT_ATTR)
86 0085 1 | ;
87 0086 1 |
88 0087 1 |
89 0088 1 | MACROS:
90 0089 1 |
91 0090 1 |
92 0091 1 | MACRO
93 M 0092 1 | R_RLB = ! RLB address register declaration.
94 0093 1 | RLB = 3 %
95 M 0094 1 | ,R_RLB_STR = ! RLB structure declaration.
96 0095 1 | R_RLB : REF BBLOCK %
97 M 0096 1 | ,L_SET_LOCK_TMO = ! Linkage to RMSSET_LOCK_TMO.
98 M 0097 1 | RL$SET_LOCK_TMO =
99 M 0098 1 | JSB:
100 M 0099 1 | GLOBAL( COMMON_RABREG, RLB = 3 )
101 M 0100 1 | PRESERVE( 1, 2 ) ! RM$LOCK needs R1 and R2.
102 0101 1 | %
103 0102 1 | ;
104 0103 1 |
105 0104 1 | LINKAGE
106 0105 1 | L_SET_LOCK_TMO,
107 0106 1 | L_JSB;
108 0107 1 |
109 0108 1 |
110 0109 1 | TABLE OF CONTENTS:
111 0110 1 |
112 0111 1 |
113 0112 1 | FORWARD ROUTINE
114 0113 1 | RM$SET_LOCK_TMO: RL$SET_LOCK_TMO ! Set up timer AST for wait on lock.
115 0114 1 | ,RM$LOCK_TMO_AST: NOVALDE ! AST routine for lock timeout.
116 0115 1 | ;
117 0116 1 |
118 0117 1 |
119 0118 1 | EXTERNAL REFERENCES:
120 0119 1 |
121 0120 1 |
122 0121 1 | EXTERNAL ROUTINE
123 0122 1 | RM$CHKAST_ANY: RL$JSB ADDRESSING_MODE( WORD_RELATIVE )
```

RMORCLK2
V04-000

: 124
: 125 0123 1
 0124 1 ;

1 9
16-Sep-1984 02:13:17 VAX-11 Bliss-32 V4.0-742
14-Sep-1984 13:00:51 [RMS.SRC]RMORCLK2.B32;1

Page 4
(2)

! Check for ASTs inhibited.


```
0125 1 %SBTTL 'RMSSET_LOCK_TMO'
0126 1 GLOBAL ROUTINE RMSSET_LOCK_TMO: RL$SET_LOCK_TMO =
0127 1
0128 1 ++
0129 1
0130 1 FUNCTIONAL DESCRIPTION:
0131 1
0132 1 This routine sets up a timer as a result of a record lock wait. It is
0133 1 called by RMORECLCK\DO_ENQ if the user specified ROP bits WAT and TMO.
0134 1
0135 1 CALLING SEQUENCE:
0136 1
0137 1 ret-status.wlc.v = RMSSET_LOCK_TMO()
0138 1
0139 1 FORMAL PARAMETERS:
0140 1
0141 1 NONE
0142 1
0143 1 IMPLICIT INPUTS:
0144 1
0145 1 R3 Address of RLB.
0146 1
0147 1 IMPLICIT OUTPUTS:
0148 1
0149 1 NONE
0150 1
0151 1 ROUTINE VALUE:
0152 1
0153 1 Return status from $SETIMR.
0154 1
0155 1 SIDE EFFECTS:
0156 1
0157 1 A timer AST is declared.
0158 1
0159 1 --
0160 2 BEGIN
0161 2
0162 2 LOCAL
0163 2 TIMEOUT: VECTOR[2, LONG] ! 64-bit delta time
0164 2 ,STATUS ! Holds $SETIMR status.
0165 2 ;
0166 2
0167 2 EXTERNAL REGISTER
0168 2 R_RLB_STR ! RLB.
0169 2 ;
0170 2
0171 2 +
0172 2 Convert timeout value from seconds to a 64-bit delta time.
0173 2
0174 2 Details: delta times are negative, hence the upper longword is %FFFFFFFF.
0175 2 The short cut used to convert the seconds to 100-nanosecond units is
0176 2 acceptable here because the number of 100-nanosecond units one can express
0177 2 in a longword (429 seconds) is greater than the number of 100-nanosecond units
0178 2 one can express in the number of seconds that will fit in a byte (255).
0179 2
0180 2 --
0181 2 IF .RLB[RLB$B_TMO] NEQU 0 ! If the timeout value is non-zero,
```

```
184 0182 2 THEN ! then convert to delta time.
185 0183 BEGIN
186 0184
187 0185 TIMEOUT[0] = .RLB[RLBSB_TMO] * -10000000;
188 0186 ! Convert seconds to 100-nanoseconds.
189 0187
190 0188 TIMEOUT[1] = -1;
191 0189 ! Upper longword is negative.
192 0190 END
193 0191 ELSE ! Else special case zero timeout.
194 0192 BEGIN
195 0193
196 0194 TIMEOUT[0] = 0;
197 0195
198 0196 TIMEOUT[1] = 0;
199 0197
200 0198 END;
201 0199
202 0200 !+
203 0201 ! Setup timer request.
204 0202 !-
205 0203
206 P 0204 STATUS = $SETIMR( ! Value of routine is $SETIMR status.
207 P 0205 DAYTIM = TIMEOUT ! Address of 64-bit delta time.
208 P 0206 ,ASTADR = RMSLOCK_TMO_AST ! Address of AST routine for timeout.
209 P 0207 ,REQIDT = .RLB ! ASTPRM (address of RLB).
210 P 0208 );
211 0209
212 0210
213 0211 IF .STATUS ! If successful,
214 0212 THEN ! then
215 0213 RLB[RLBSV_TIMER_INPROG] = 1; ! set timeout in progress flag.
216 0214
217 0215 RETURN .STATUS; ! Return $SETIMR status.
218 0216
219 0217 1 END; ! End of routine RM$SET_LOCK_TMO
```

```
.TITLE RMORCLK2
.IDENT \V04-000\
.EXTRN RMSCHKAST_ANY, SYS$SETIMR
.PSECT RMSRMS0,NOWRT, GBL, PIC,2
```

```
51 DD 00000 RM$SET_LOCK_TMO::
5E 08 C2 00002 PUSH R1 0126
0A A3 95 00005 SUBL2 #8, SP 0181
12 13 00008 TSTB 10(RLB)
50 0A A3 9A 0000A BEQL 1$ 0185
6E 04 50 FF676980 MOVZBL 10(RLB), R0
50 8F C5 0000E MULL3 #-10000000, R0, TIMEOUT
AE 01 CE 00016 MNEGL #1, TIMEOUT+4 0188
02 11 0001A BRB 2$ 0181
6E 7C 0001C 1$: CLRQ TIMEOUT 0194
53 DD 0001E 2$: PUSH RLB 0209
0000V CF 9F 00020 PUSHAB RMSLOCK_TMO_AST
```


RMSSET_LOCK_TMO

16-Sep-1984 02:13:17
14-Sep-1984 13:00:51

VAX-11 BLISS-32 V4.0-742
[RMS.SRC]RMORCLK2.B32;1

Page 7
(3)

00000000G	00	08	AE	9F	00024	PUSHAB	TIMEOUT
	04		7E	D4	00027	CLRL	-(SP)
	A3		04	FB	00029	CALLS	#4, SYS\$SETIMR
04	5E		50	E9	00030	BLBC	STATUS, 3\$
			01	88	00033	BISB2	#1, 4(RLB)
			08	C0	00037	ADDL2	#8, SP
			02	BA	0003A	POPR	#^M<R1>
				05	0003C	RSB	

0211
0213
0217

```
; Routine Size: 61 bytes,    Routine Base: RM$RMS0 + 0000
```

```
RM$LOCK_TMO_AST

: 221 0218 1 %SBTTL 'RM$LOCK_TMO_AST'
: 222 0219 1 GLOBAL ROUTINE RM$LOCK_TMO_AST( RLB: REF BBLOCK ): NOVALUE =
: 223 0220 1
: 224 0221 1 ++
: 225 0222 1
: 226 0223 1 FUNCTIONAL DESCRIPTION:
: 227 0224 1
: 228 0225 1 This is the AST routine that fires when the timer for a lock
: 229 0226 1 request expires. It is declared by a $SETIMR in RM$SET_LOCK_TMO.
: 230 0227 1
: 231 0228 1 CALLING SEQUENCE:
: 232 0229 1
: 233 0230 1 ret-status.wlc.v = RM$LOCK_TMO_AST( astprm.rlu.v )
: 234 0231 1
: 235 0232 1 FORMAL PARAMETERS:
: 236 0233 1
: 237 0234 1 ASTPRM RLB address.
: 238 0235 1
: 239 0236 1 IMPLICIT INPUTS:
: 240 0237 1
: 241 0238 1 NONE
: 242 0239 1
: 243 0240 1 IMPLICIT OUTPUTS:
: 244 0241 1
: 245 0242 1 NONE
: 246 0243 1
: 247 0244 1 ROUTINE VALUE:
: 248 0245 1
: 249 0246 1 NONE
: 250 0247 1
: 251 0248 1 SIDE EFFECTS:
: 252 0249 1
: 253 0250 1 Lock request is dequeued.
: 254 0251 1 --
: 255 0252 1
: 256 0253 2 BEGIN
: 257 0254 2
: 258 0255 2 BUILTIN
: 259 0256 2 TESTBITSC
: 260 0257 2 ;
: 261 0258 2
: 262 0259 2 +
: 263 0260 2 Validate ASTPRM (RLB structure).
: 264 0261 2 -
: 265 0262 2
: 266 0263 2 ** should we probe RLB?
: 267 0264 2 ** should we check RLB BID/BLN?
: 268 0265 3 IF ( .RLB[RLB$B_BID] NEQU RLB$C_BID ) OR ( .RLB[RLB$B_BLN] NEQU RLB$K_BLN/4 )
: 269 0266 2 THEN
: 270 0267 2 BUG_CHECK;
: 271 0268 2
: 272 0269 2 +
: 273 0270 2 Check if ASTs should be inhibited; if so, requeue this AST and do a RET
: 274 0271 2 (e.g. the routine won't return). If ASTs are not inhibited, simply RSB
: 275 0272 2 back here.
: 276 0273 2 -
: 277 0274 2
```



```

278 0275 2 RMSCHKAST_ANY();
279 0276
280 0277
281 0278 !+ If the $ENQ hasn't completed, then clear the timer in progress flag and
282 0279 dequeue (cancel) the lock request.
283 0280
284 0281 !- If the timer fired immediately after the $ENQ completion, but before the
285 0282 timer could be cancelled, then simply return; we have nothing to do.
286 0283
287 0284
288 0285 IF TESTBITSC( RLB[RLB$V_TIMER_INPROG] ) ! If the $ENQ hasn't completed,
289 0286 THEN ! then dequeue the lock request.
290 0287 BEGIN
291 0288
292 0289 LOCAL
293 0290 STATUS
294 0291 ;
295 0292
296 0293 STATUS = $DEQ( LKID = .RLB[RLB$L_LOCK_ID] );
297 0294 ! Dequeue (cancel) the request.
298 0295
299 0296 !+ The only acceptable failure status from $DEQ should be SS$_IVLOCKID;
300 0297 this could only happen if the timer fired immediately after the $ENQ
301 0298 completed, but before the RLB$V_TIMER_INPROG bit could be cleared by
302 0299 routine RMORECLCK\DO_ENQ.
303 0300 !-
304 0301
305 0302
306 0303 IF ( NOT .STATUS ) AND ( .STATUS NEQ SS$_IVLOCKID )
307 0304 ! If the $DEQ failed for other than
308 0305 THEN ! an invalid lock id, then
309 0306 BUG_CHECK; ! bugcheck.
310 0307
311 0308 END;
312 0309
313 0310 1 END;

```

! End of routine RMSLOCK_TMO_AST

				.EXTRN	RMSBUG3, SYSSDEQ	
				.ENTRY	RMSLOCK_TMO_AST, Save R2,R3,R4,R5,R6,R7,R8,-;	0219
				MOVAB	R9,R10,R11	
				MOVL	RMBUG3, R3	
				CMPB	RLB, R2	0265
				BNEQ	8(R2), #14	
				CMPB	1\$	
				BEQL	9(R2), #7	
				JSB	2\$	
				BSBW	RMSBUG3	0266
				BBCC	RMSCHKAST_ANY	0275
				CLRQ	#0, 4(R2), 3\$	0285
				CLRL	-(SP)	0293
				PUSHL	-(SP)	
				CALLS	24(R2)	
				BLBS	#4, SYSSDEQ	
					STATUS, 3\$	0303

				OFFC 00000	
53	00000000G	00	9E	00002	
52	04	AC	D0	00009	
0E	08	A2	91	0000D	
		06	12	00011	
07	09	A2	91	00013	
		02	13	00017	
		63	16	00019	1\$:
		0000G	30	0001B	2\$:
1C	04	A2	00	E5	0001E
		7E	7C	00023	
		7E	D4	00025	
		18	A2	DD	00027
	00000000G	00	04	FB	0002A
	0B	50	E8	00031	

50 D1 00034
02 13 0003B
63 16 0003D
04 0003F 3\$:

CMPL
BEQL
JSB
RET

STATUS, #8484
3\$
RMSBUG3

:
:
: 0305
: 0310

; Routine Size: 64 bytes, Routine Base: RM\$RMS0 + 003D

: 314
: 315
: 316

0311 1
0312 1 END
0313 0 ELUDOM

! End of module RMORCLCK2

PSECT SUMMARY		
Name	Bytes	Attributes
RM\$RMS0	125	NOVEC,NOWRT, RD , EXE,NOSHR, GBL, REL, CON, PIC,ALIGN(2)

Library Statistics					
File	----- Total	Symbols Loaded	----- Percent	Pages Mapped	Processing Time
_\$255\$DUA28:[RMS.OBJ]RMSINTDEF.L32;1	1484	16	1	83	00:00.3
_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	5	0	581	00:02.4

; COMMAND QUALIFIERS

; BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS\$:RMORCLCK2/OBJ=OBJ\$:RMORCLCK2 MSRC\$:RMORCLCK2/UPDATE=(ENH\$:RMORCLCK2)

; Size: 125 code + 0 data bytes

; Run Time: 00:07.4

; Elapsed Time: 00:22.6

; Lines/CPU Min: 2530

; Lexemes/CPU-Min: 9113

; Memory Used: 51 pages

; Compilation Complete

0319 AH-BT13A-SE
VAX/VMS V4.0

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