

13140 SEP 08, 1975 ID:00E3

JOB :POST, BRU333323132,7 * TERMINAL JOB

LIMIT (CORE,16),(TIME,15)

ASSIGN M:SI,(FILE,ALLYCAT,IDOOTS)

ASSIGN M:CI,(FILE,ALLYCAT,IDOOCI)

METASYM SI,CI,LS,CN

•SS R0,R1,R2,R3,R4,R5,R6,R7,R8,R9,R10,R11,R12,R13,R14,R15

•SS SR1,SR2,SR3,SR4,D1,D2,D3,D4,\$

•END

ACNCFU						
ACNFDA	20/REF	15R/STW	159/STW	303/LW	304/LW	
ADJBUFS	21/REF	157/LM	308/STM			
	345-EQU	661/BEZ				
ADJUSTCNT	22/REF	364/STH	379/MTW	427/MTW	624/STH	
AGRAVAIL	83-EQU	17R/STW	216/LW	220/AWM	223/CW	270/LM
ALLOCAT						
	289-EQU	692/LI				
ALLDIRA	23/REF	160/STD	305/LD			
ALLOUT	24/REF	697/STW				
ALLYCAT						
	12-CSECT	16/DEF	735/END			
ALLYEND	25/REF	707/LI				
ALLYERROR						
	366/BLZ	556-SCREECH				
ALLYON	82-EQU	302/MTW				
AVGIADJ	370/BLE	401-EQU				
BACKUP						
	681-6/LD	733-TEXTC				
BITS						
	8-SET					
BOTTOM						
	26/REF	372/LH	375/STH	409/LH	415/LH	626/STH
BUFLAGS	27/REF	35R/LH	362/STH	400/STH	625/STH	
BUFMASK	28/REF	374/AND	390/AND	411/AND	425/AND	618/LH
CATBUF						

CBAHD	29/REF	377/LW	413/LW	617/LW			
CBFHD	30/REF	82/EQU	660/LB	665/STB			
CHKSUM	31/REF	567/LB	569/STB				
CMNGG	293/BAL	700/BAL	704-EQU				
CMNGNG	32/REF	417/BAL	480/BEZ				
CMNRG	33/REF	440/BAL	443/BAL				
CMNRNG	34/REF	331/BAL	392/BAL	587/BAL			
COMBUF	35/REF	460/BAL					
	36/REF	315/INT	317/LW	445/STW	446/STW	457/LW	474/LW
	493/STW	545/STW	566/AI	663/AI			
COMVEC	318/BAL	635-B					
COUNTBITS	643/B	651-BAL					
COUNTEM	197/B	203/B	207-LI				
COUNTEM1	215-INT	234/B					
COUNTEM2	217-LW	222/BDR					
COUNTEM3	212/BEZ	224/BE	230-XW				
CVMPAGE	581/LI	583/LW	585/XW	590/STD	591-EQU		
DCTGG	37/REF	531/BAL					
DCT2	38/REF	497/LB	511/CB				
DCT24							

DISCBPR0C	39/REF	188/LC					
E:SL	9-SET						
EMPTY1	40/REF	701/LI					
EMP3	379-MTH	398/BDR					
ENDYET	395/BNEZ	397-EQU					
ERRLOG	314-BAL 631/B	319/B 638/B	335/B 642/B	447/B 653/B	463/BNEZ	465/B	592/B
FCB	41/REF	676/BAL					
FILL	323/BAL	459/BAL	564-DISABLE	577/BAL	598/BAL	651/BAL	
FILLPER	368/BLE	407-RES					
FILL1	597-EQU	641/B					
FILL2	416-PUSH	428/BIR					
FNDHGP	420/BNEZ	424-AI					
FP1	42/REF	495/BAL					
FP2	603-LW	615/BNEZ					
GBG	605/BEZ	614-LW					
GBUF	43/REF	336/B	337/B	483/B	540/B		
GCYL	314/BAL	659-DISABLE					
GETN	44/REF	339/B	482/BDR	539/BDR			

GG	435-EQU	635/B			
GRANMIN	330/BAL	340-DATA			
GRAVAIL	45/REF	681.4/CW			
GSPB	47/REF	271/STM	681.1/LW	681.2/AW	681.3/AW
GSPB1	472-EQU	637/B			
GSPB10	477-LI	487/BDR			
GSPB11	524/BNE	529-LI			
GSPB12	528/B	532-BNEZ			
GSPB13	534-LI	543/BDR			
GSPB14	534/LI	538/BEZ	541-BNEZ		
GSPB2	496/BEZ	532/BNEZ	541/BNEZ	544-PLW	
GSPB3	477/LI	484-BNEZ			
GSPB4	476/LW	489-DATA	533/LW		
GSPB5	481/LB	491-DATA			
GSPB6	484/BNEZ	488/B	492-LW		
GSPB7	503-LI	527/BNEZ			
GSPB8	505-CB	522/BNEZ			
GSPB9	512/BNE	517/BNE	520-STW		
	506/BNE	508/BLEZ	515/BCR	518/BCR	521-LW

GSG							
	48/REF	338/B					
GT							
	329/LB	341-EQU					
HGP							
	49/REF	180/LI	267/DATA	268/DATA	504/LI	602/LI	705/LI
	707/LI						
HGP:LIMS							
	254/CLM	266/DEF	267-DATA				
HGPCHAIN							
	231/BLEZ	236-LW					
HGPCH2							
	239/BG	243-LW					
HGPCNT							
	172-EQU	494/BAL	630/BAL	652/BAL			
HGPDONE							
	250/BEZ	269-LCI					
HGPLINK							
	186/BANZ	189/BCS	237/BEZ	249-LW			
HGPSBLOWN							
	196/BEZ	205/BNE	262-SCREECH				
HGPSIZE							
	50/REF	268/DATA					
HGPTTEST							
	17/DEF	254-CLM					
HGPTYPE							
	51/REF	176/STW	177/STW	244/XW	246/LW	273/LW	275/STW
HILEVEL							
	52/REF	369/CH	408/SH				
INCR							
	150/BAL	279-LI	286/BDR				
INCR1							
	283/BLE	285-EQU					
J:BASE							
	53/REF	83/EQU	291/XW	294/CW	699/STW	710/AWM	712/AWM
	714/AWM	716/AWM					
JB:LMAP							

JBUPVP	54/REF	117/LB	121/LB	
JH:DA	55/REF	116/LI		
JXBUFVP	56/REF	146/LH	148/STH	
KRD2	57/REF	123/AI		
KRD4	166/LI	292/BEZ	295/BE	301-EQU
LFGUN	709-CVA	712/BDR		
LOGERR	58/REF	164/MTW		
LBLEVEL	396/BAL	464/BAL	670-PUSH	
M:ADRINCR	59/REF	367/CH	371/SH	
M:GASLIM	60/REF	284/AW		
M:XX	61/REF	282/CS		
MBIGAM6	62/REF	208/STW	219/CVA	
M16	63/REF	281/LB		
M24	452/AND			
M4	437/AND	455/AND		
M8	199/AND	442/AND		
NEXTBUF	316/AND			
NEXTHGP	348-ENABLE	360/BANZ	401/EQU	402/B
	181-LW	251/LI		

NBAJ				
	133/BEZ	137-LH		
NOMBRE				
	350/BLZ	681.1-LW		
NBPURGE				
	681.5/BGE	687-LW		
NBTCYL				
	192/BAZ	198-SLS		
NBTRAD				
	201/BNE	204-CI		
QE1				
	325-DISABLE	333/B	334/BIR	
QE2				
	327/BEZ	334-BIR		
QUIESCE				
	323-BAL	640/B		
RELBUF				
	577-BAL	639/B		
RELBUF1				
	584-LI	589/BDR		
RELIT				
	136/B	138-AI		
RELN				
	453-EQU	636/B		
S:RBBRN				
	65/REF	354/MTW		
SAMSJIT				
	66/REF	691/STD		
SETFLAG				
	355/BEZ	400-STH	423/B	430/B
SETINDEX				
	346-LI			
SGB				
	67/REF	627/STW		
SYS				
	114/CAL1	731-GEN		
SYSACTL				

T:GJOBSTRT	68/REF	161/STW	306/LW			
T:RBUF	69/REF	681.7/BAL				
T:REG	70/REF	125/BAL				
T:SGR	71/REF	709/B				
TEMPBOT	72/REF	141/BAL	147/BAL			
TOP	73/REF	376/LH	412/STH	422/STH	629/STH	
TSTACK	74/REF	628/STH				
U:MISC	438/PSW	444/PLW	492/LW*	544/PLW		
UB:PCT	75/REF	695/STW				
UB:PRI08	76/REF	130/LB				
UB:SWAPI	77/REF	154/MTB				
UH:AJIT	78/REF	153/STB	687/LW			
UH:JIT	79/REF	132/LH	134/STH	690/INT		
WAIT	80/REF	137/LH	140/STH	688/LW		
WORDCNT	163/BAL	165/BLZ	693-EQU			
Y2	81/REF	326/MTH	365/LH	479/LH	537/MTH	622/STH
Y4	672/AW					
Y8	513/0R					
	173/LW	519/0R				

1A1

117-LB

126/B

1A2

119/BEZ

127-EQU

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TITLE **** ALLYCAT ****
!**** ALLYCAT ****!

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**** ALLYCAT ****

2
3

PCC 0
M ALLYCAT NON-RESIDENT PUBLIC GRANULE ALLOCATION CODE

5
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00000001
00000001

P NAME: ALLYCAT
P PURPOSE: ALLYCAT TRANSFERS INFORMATION BETWEEN
P RESIDENT AND NON-RESIDENT PUBLIC ALLOCATION DATA.
BITS SET 1
DISCBPR0C SET 1
SYSTEM UTS

12 02 00000

ALLYCAT CSECT 1 ALLYCAT PROCEDURE

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16
17

*

DEFS
DEF
DEF

**** ALLYCAT ****

ALLYCAT
HGPTST

FOR PATCHING
TEST HGP ADDR VALIDITY

19	*	REFS		
20		REF	ACNCFU	SAVED BY ALLLOCAT
21		REF	ACNFDA	WHERE TO SAVE ACNCFU
22		REF	ADJUSTCNT	TELL SWAPPER HOW TO ADJUST STACKS
23		REF	ALLDIRA	SAVED BY ALLLOCAT
24		REF	ALLOUT	TELL SWAPPER TO OUTSWAP ALLOCAT
25		REF	ALLYEND	TO CHECKSUM DATA AREA
26		REF	BOTTOM	IN CORE STACK CONTROL
27		REF	BUFLAGS	IN CORE STACK FLAGS
28		REF	BUFMASK	IN CORE STACK CONTROL
29		REF	CATBUF	IN CORE STACK ADDRESSES
30		REF	CBAHD	HEAD OF ALLOCAT COMMUNICATIONS
31		REF	CBFHD	HEAD OF COMMUNICATION BUFFERS
32		REF	CMNGG	GET GRANULE
33		REF	CMNGNG	GET GRANULES
34		REF	CMNRG	RELEASE GRANULE
35		REF	CMNRNG	RELEASE GRANULES
36		REF	COMBUF	ADDRESS OF COMMUNICATION BUFFERS
37		REF	DCTGG	GET GRANULE ON SPECIFIC DEVICE
38		REF	DCT2	CHANNEL # FOR GET SEPARATED PAIR
39		REF	DCT24	X80 IMPLIES NO ALLOCATION HERE
40		REF	E:SL	SLEEP UNTIL NEEDED AGAIN
41		REF	ERRLOG	LOG BAD ADDRESSES
42		REF	FNDHGP	HGP ADDRESS/DCTX FOR SEPARATED PAIR
43		REF	GBG	GET FROM STACK (SEP PAIR/QUIESCE)
44		REF	GCYL	GET FROM STACK (SEP PAIR/QUIESCE)
45		REF	GRANMIN	PURGE LIMIT
47		REF	GRAVAIL	#GRANULES AVAILABLE
48		REF	GSG	GET FROM STACK (QUIESCE)
49		REF	HGP	ADDRESS OF BITMAPS
50		REF	HGPSIZE	SIZE OF BITMAP AREA
51		REF	HGPTYPE	HEADS OF TYPE CHAINS
52		REF	HILEVEL	UPPER THRESHOLD FOR STACKS
53		REF	J:BASE	TEMP STORAGE
54		REF	JB:LMAP	RELEASE EXTRA PAGES
55		REF	JBUPVP	RELEASE EXTRA PAGES
56		REF	JHIDA	MOVE TO ORIGINAL LOCATION

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57	REF	JXBUFVP	RELEASE EXTRA PAGES
58	REF	LFGUN	RECONSTRUCT COMPLETION
59	REF	L0LEVEL	LOWER THRESHOLD FOR STACKS
60	REF	M:ADRINCR	MOVE TO ORIGINAL LOCATION
61	REF	M:GASLIM	MOVE TO ORIGINAL LOCATION
62	REF	M:XX	TEMP STORAGE
63	REF	MB:GAM6	MOVE TO ORIGINAL LOCATION
65	REF	S:RBBRN	DONT ALLOCATE SYMBIANT BEFORE RBBAT
66	REF	SAMJSJIT	SAVE RBBAT JIT DA
67	REF	SG8	SYMBIANT GRANULES BUSY
68	REF	SYSACTL	SAVED BY ALLOCAT
69	REF	T:GJOBSTR	START PURGE
70	REF	T:IRBUF	RELEASE EXTRA PAGES
71	REF	T:REG	SLEEP UNTIL NEEDED AGAIN
72	REF	T:SGR	MOVE TO ORIGINAL LOCATION
73	REF	TEMPBOT	TELL SWAPPER HOW TO ADJUST STACKS
74	REF	T0P	IN CORE STACK CONTROL
75	REF	U:MISC	SLEEP UNTIL NEEDED AGAIN
76	REF	UB:PCT	MOVE TO ORIGINAL LOCATION
77	REF	UB:PRI08	BUMP FOR UNINTERRUPTED TIME
78	REF	UB:SWAP1	MOVE TO ORIGINAL LOCATION
79	REF	UH:AJIT	MOVE TO ORIGINAL LOCATION
80	REF	UH:JIT	MOVE TO ORIGINAL LOCATION
81	REF	WORDCNT	IN CORE STACK CONTROL
82	EXT	EQU	CBAND
83	00000001 S	ALLY0N	J:BASE+1
		AGRAVAIL	

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85

* SYMBOLIC REGISTERS

87 00000000
88 00000001
89 00000002
90 00000003
91 00000004
92 00000005
93 00000006
94 00000007
95 00000008
96 00000009
97 0000000A
98 0000000B
99 0000000C
100 0000000D
101 0000000E
102 0000000F

R0 EQU 0
R1 EQU 1
R2 EQU 2
R3 EQU 3
R4 EQU 4
R5 EQU 5
R6 EQU 6
R7 EQU 7
R8 EQU 8
R9 EQU 9
R10 EQU 10
R11 EQU 11
R12 EQU 12
R13 EQU 13
R14 EQU 14
R15 EQU 15

**** ALLYCAT ****

104 *F*
 105 *F*
 106 *F*
 107 *F*
 108 *F*
 109 *F*
 110 *F*
 111 *F*

NAME: ALLOCAT
 PURPOSE: PREPARE ALLOCAT TO RUN FOLLOWING SYSTEM STARTUP.
 DESCRIPTION: THE JIT IS MODIFIED SO THAT ALLOCAT'S DATA
 IS SWAPPED OUT TO SECTOR 8 OF THE FIRST SWAP DEVICE.
 PORTIONS OF RESIDENT DATA MODIFIED BY ALLYCAT
 ARE NOT MADE ACCESSIBLE TO GRAN UNTIL ALLOCAT HAS
 BEEN SWAPPED OUT.
 UBIPRI08 IS BUMPED TO INSURE CONTINUOUS EXECUTION

114	02	00000	046001E2		CAL1,6	SYS	GET MASTER MODE
116	02	00001	22700000 N		LI,R7	JBUPVP	*FREE ANY UNNEDED PAGES BELOW
117	02	00002	72AE0000 X	1A1	LB,R10	JBILMAP,R7	*(FLINK) ALLY START
118	02	00003	3270000A A		LW,R7	R10	BEFORE TRYING TO SWAP
119	02	00004	6830000B		BEZ	1A2	BACK TO ORIGINAL SIZE
121	02	00005	72AE0000 X		LB,R10	JBILMAP,R7	
122	02	00006	32E00007 A		LW,14	7	
123	02	00007	20E00000 N		AI,14	=JXBUFVP	SPARE BUFFER INDEX,
124	02	00008	22500000 A		LI,5	0	
125	02	00009	6A200000 X		BAL,2	T,RBUF	RELEASE IT..
126	02	0000A	68000002		B	1A1	
127		02 0000B		1A2	EQU	*	
129	02	0000B	22400002 A		LI,R4	2	ALLOCAT'S NUMBER
130	02	0000C	72780000 X		LB,R7	UB:PCT,R4	
131	02	0000D	22E00002 A		LI,R14	2	SECT 2 RESVD FOR AJIT
132	02	0000E	52F80000 X		LH,R15	UH:AJIT,R4	IF THERE IS ONE
133	02	0000F	68300013		BEZ	NBAJ	
134	02	00010	55E80000 X		STH,R14	UH:AJIT,R4	
135	02	00011	207FFFFFF A		AI,R7	=1	DECR CT FOR AJIT PAGE
136	02	00012	68000014		B	RELIT	
137	02	00013	52F80000 X	NBAJ	LH,R15	UH:JIT,R4	GET JIT SECT NUM TO REL
138	02	00014	207FFFFFF A	RELIT	AI,R7	=1	DECR CT FOR JIT PAGE
139	02	00015	22E00004 A		LI,R14	4	SECT 4 RESERVED FOR JIT

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140 02 00016 59E80000 X
 141 02 00017 6AB00000 X
 142 02 00018 20700003 A
 143 02 00019 2570007E A
 144 02 0001A 22E00008 A
 145 02 0001B 22600000 A
 146 02 0001C 52FC0000 X
 147 02 0001D 6AB00000 X
 148 02 0001E 59EC0000 X

150 02 0001F 6AD0008B
 151 02 00020 20600001 A
 152 02 00021 6470001C
 153 02 00022 75780000 X
 154 02 00023 73880000 X

156 02 00024 02200060 A
 157 02 00025 2A000000 X
 158 02 00026 35000001 N
 159 02 00027 35100008 N
 160 02 00028 15200000 X
 161 02 00029 35400000 X

STH,R14 UHIJIT,R4
 BAL,R11 TISGR
 AI,R7 3
 SLS,R7 =2
 LI,R14 8
 LI,R6 0
 LH,R15 JH:DA,R6
 BAL,R11 TISGR
 STH,R14 JH:DA,R6

BAL,R13 INCR
 AI,R6 1
 BDR,R7 *-5
 STB,R7 UB:SWAPI,R4
 MTB,-8 UB:PRI0B,R4

LCI 6
 LM,0 ACNFDA
 STW,0 ACNCFU+1
 STW,1 ACNCFU+8
 STD,2 ALL0DIRA
 STW,4 SYSACTL

REL A GROUP OF GRANS
 GET # DISC ADDRESSES
 CAT STARTS ON SECTOR 8
 PICK UP DAS
 PUT BACK OLD ONES
 NEXT DA
 UPB OUR COMPUTE PRI0 A BIT
 GET FILE SYSTEM POINTERS
 FDA
 DFDA
 NGAVAL/GAVAL
 ISYS FDA

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163 02 0002A 6AB001CA
 164 02 0002B 33000000 X
 165 02 0002C 691001CA
 166 02 0002D 22B0009B

BAL,11 WAIT GIVE UP FOR RECON
 MTW,0 LFGUN DO NOTHING UNTIL FIX HAS RUN ONCE
 BLZ WAIT
 LI,11 KRDR

167
 168
 169
 170
 171

*
 F NAME: HGPCNT
 F PURPOSE: COUNT BITS IN THE BITMAPS, BUILD HGPTYPE CHAINS, SET
 F EMPTY BITS AND GRAVAIL
 *

172 02 0002E
 173 02 0002E 32D00020 N
 174 02 0002F 22C00000 A
 175 02 00030 22400004 A
 176 02 00031 35C9FFFF N
 177 02 00032 35C80002 N
 178 02 00033 35C80000 N
 179 02 00034 64400031
 180 02 00035 22700000 N
 181 02 00036 323E0001 A
 182 02 00037 47DE0005 A
 183 02 00038 47DE0006 A
 184 02 00039 35CE0003 A
 185 02 0003A 21304000 A
 186 02 0003B 69400078
 187 02 0003C 52400003 A
 188 02 0003D 70280000 X
 189 02 0003E 69800078
 190 02 0003F 22E00001 A
 191 02 00040 21302000 A
 192 02 00041 68400047
 193 02 00042 22900003 A
 194 02 00043 22E000FF A
 195 02 00044 45EE0001 A
 196 02 00045 6830007D
 197 02 00046 68000050
 198 02 00047 25300078 A
 199 02 00048 45300004 N

HGPCNT EQU 9
 LW,13 Y8 EMPTY BIT
 LI,12 0 FOR ZAPPING
 LI,R4 4 THE GRANULES AVAILABLE
 STW,12 HGPTYPE-1,4 ZAP FAST PATH POINTERS TOO
 STW,12 HGPTYPE+2,4
 STW,12 AGRAVAIL-1,4 TABLES
 BDR,4 #=3
 LI,R7 HGP START OFF LOOP
 NEXTHGP LW,R3 1,R7 GET MAP FLAGS
 STS,13 5,7 SET EMPTY BITS
 STS,13 6,7 FOR PFA AND PER
 STW,12 3,7 ZAP FAST PATH DISP
 CI,R3 X140001 IS THIS MAP A PUBLIC HGP
 BANZ HGPLINK NOPE...PRIVATE
 LH,4 3 IF DEVICE IS DOWN, SKIP IT
 LC DCT24,4
 BCS,8 HGPLINK
 LI,14 1 ONE GRAN/BIT UNLESS CYL
 CI,R3 X180001 IS CYLINDER ALLOCATED
 BAZ NOTCYL NOPE
 LI,9 3 CYL SPOT
 LI,14 XIFF1 GET CYL SIZE
 AND,14 1,7
 BEZ HGPSBLWN NO GOOD
 B COUNTEN GET INTO LOOP
 NOTCYL SLS,R3 #8 POSITION DEVICE TYPE
 AND,R3 M4 STRIP DOWN TO DEVICE TYPE

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200	02	00049	21300007	A	CI,R3	X'07'	IS THIS A RAD HGP	
201	02	0004A	6930004D		BNE	N0TRAD	N0PE	
202	02	0004B	22900000	A	LI,9	0	RAD SP0T	
203	02	0004C	68000050		B	CBUNTEM	D0 IT	
204	02	0004D	2130000B	A	N0TRAD	CI,R3	X'0B'	IS IT A DISC PACK THEN
205	02	0004E	6930007D		BNE	HGPSBLOWN	HGPS ARE BLOWN AWAY	
206	02	0004F	22900001	A	LI,9	1	P0INT T0 PACK SP0T	
207	02	00050	222FFFE0	A	CBUNTEM	LI,2	*32	SET UP CVA TABLE
208	02	00051	35E40021	N	STW,14	M:XX+33,2	IN JIT	
209	02	00052	65200051		BIR,2	*-1	IN CASE WE GET SWAPPED	
210	02	00053	642E0004	A	INT,2	4,7	GET WORD COUNTS (MAX FFF)	
211	02	00054	20200000	A	AI,2	0	ANY PER 0N THIS 0NE	
212	02	00055	68300067		BEZ	CBUNTEM3	N0...CHECK PFA	
213	02	00056	324E0005	A	LW,4	5,7	GET PER MAP DETAILS	
214	02	00057	22100002	A	LI,1	2		
215	02	00058	64400004	A	CBUNTEM1	INT,4	4	SHIFT MAP WORD DISP INTO PLACE
216	02	00059	32020001	N	LW,0	AGRAVAIL,1	GET CURRENT VALUE FOR EMPTY CHECK	
217	02	0005A	B2F80007	A	CBUNTEM2	LW,15	*R7,R4	GET A WORD
218	02	0005B	6430005E		BEZ	*+3	N0NE HERE	
219	02	0005C	29E00001	N	CVA,14	M:XX+1	ADD UP THE BITS	
220	02	0005D	66E20001	N	AWM,14	AGRAVAIL,1	AND ACCUMULATE	
221	02	0005E	20400001	A	AI,R4	1		
222	02	0005F	6420005A		BDR,2	CBUNTEM2	NEXT WORD LOOP	
223	02	00060	31020001	N	CW,0	AGRAVAIL,1	DID WE GET ANY GRANULES	
224	02	00061	68300067		BE	CBUNTEM3	N0	
225	02	00062	22400006	A	LI,4	6	ASSUME PFA	
226	02	00063	21100002	A	CI,1	2		
227	02	00064	69300066		BNE	*+2		
228	02	00065	22400005	A	LI,4	5	N0, WAS PER	
229	02	00066	C7CE0004	A	STS,12	*4,7	RESET EMPTY BIT IF WE GOT SOME	
230	02	00067	46200003	A	CBUNTEM3	XW,2	3	ANY PFA 0N THIS DEVICE, 0R WERE D0NE
231	02	00068	6820006C		BLEZ	HGPCHAIN	D0NE, PUT IN A CHAIN, MAYBE	
232	02	00069	32100009	A	LW,1	9	GET SAVED PFA TYPE	
233	02	0006A	324E0006	A	LW,4	6,7	GET PFA MAP DETAILS	
234	02	0006B	68000058		B	CBUNTEM1		
235					*			
236	02	0006C	323E0004	A	HGPCHAIN	LW,3	4,7	IF SWAPPER 0NLY, D0NT CHAIN

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20

237	02	0006D	68300078	BEZ	HGPLINK		
238	02	0006E	21100002	CI,1	2		CYL => ONLY PFA SO LINK IT
239	02	0006F	69200073	BG	HGPCH2		
240	02	00070	64500072	BDR,5	8+2		OTHERWISE, CHECK FOR DUAL PURPOSE
241	02	00071	201FFFFC	AI,1	=4		STARTS AT 0, PUT IN 0,1,OR 2
242	02	00072	20100004	AI,1	4		DOESNT, PUT IN 4,5,OR 6
243	02	00073	32200007	HGPCH2	LW,2	7	ADD 7 TO CIRCULAR CHAIN HGPTYPE
244	02	00074	46720000	X	XW,7	HGPTYPE,1	
245	02	00075	462E0002	A	XW,2	2,7	OLD HEAD'S NEW FLINK IS NEW HEAD
246	02	00076	32720000	X	LW,7	HGPTYPE,1	NEW HEAD'S FLINK IS OLD HEAD'S OLD F
247	02	00077	352E0002	A	STW,2	2,7	(BOTH THE SAME IF OLD HEAD WAS 0)
248				*			
249	02	00078	327E0000	A	HGPLINK	LW,R7	0,R7
250	02	00079	68300082		BEZ	HGPDONE	STEP UP TO NEXT HGP
251	02	0007A	22900036		LI,R9	NEXTHGP	HIT LAST ONE
252				*			SET RETURN, FALL THRU CHK LINK
253				*			
254	02	0007B	19700080	HGPTTEST	CLM,R7	HGP:LIMS	IS ADDRESS WITHIN RANGE
255	02	0007C	E8900009	A	BCR,9	*9	YES,EXIT
256				*S*		SCREECH CODE: 89=00	
257				*S*		REPORTED BY: ALLCAT	
258				*S*		MESSAGE: ALLYCAT'S HGP CHAIN CLOBBERED	
259				*S*		REGISTERS: R7=INVALID HGP CHAIN ADDRESS	
260				*S*		R9=LINK REGISTER	
261				*S*		TYPE: SCREECH	
262	02	0007D	0F000000	X	HGPSBL0WN	SCREFCH X'89'	NOPE
263	02	0007E	00890000	A			
264				*			
265				*			
266					B0UND	8	
267	02	00080	00000000	N	DEF	HGP:LIMS	FOR GRANSUB
268	02	00081	00000002	N	HGP:LIMS	DATA	
269	02	00082	02200040	A	HGPDONE	LCI	HGP+HGFSIZE+2
270	02	00083	2A000001	N		LM,R0	AGRAVAIL
271	02	00084	2P000000	X		STM,R0	GRAVAIL
272	02	00085	22300007	A		LI,3	7
							SET UP GRAVAIL FOR KEYIN

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273 02 00086 3227FFFF N
 274 02 00087 32240002 A
 275 02 00088 3527FFFF N
 276 02 00089 64300086
 277 02 0008A E800000B A

**** ALLYCAT ****
 LW,2 HGPTYPE=1,3 ALLOCATE FROM FIRST TO LAST
 LW,2 2,2
 STW,2 HGPTYPE=1,3
 BDR,3 *-3
 B *R11 RETURN TO INITIALIZATION

21

279 02 0008B 22500004 A INCR
 280 02 0008C 20E00002 A
 281 02 0008D 72F00000 X
 282 02 0008E 45E00000 X
 283 02 0008F 68200091
 284 02 00090 30E00000 X
 285 02 00091 00091 INCR1
 286 02 00091 6450008C
 287 02 00092 E800000D A

LI,R5 4
 AI,R14 2
 LB,15 MB;GAM6
 CS,14 M;GASLIM
 BLE INCR1
 AW,R14 M;ADRINCR
 EQU *
 BDR,R5 INCR+1
 B *R13

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**** ALLYCAT ****

289 02 00093
 290 02 00093 22500000 A
 291 02 00094 46500000 X
 292 02 00095 6830009B
 293 02 00096 6A6001D3
 294 02 00097 31500000 X
 295 02 00098 6830009B
 296
 297
 298
 299
 300 02 00099 0F000000 X
 02 0009A 00890010 A
 301 02 0009B
 302 02 0009B 33100000 X
 303 02 0009C 32000001 N
 304 02 0009D 32100008 N
 305 02 0009E 12200000 X
 306 02 0009F 32400000 X
 307 02 000A0 02200050 A
 308 02 000A1 20000000 X

ALLOCAT EGU \$
 LI,R5 0
 XW,R5 J,BASE SET CHECKSUM TO ZERO
 BEZ KRD2 NO CHECKSUM TO COMPARE WITH
 BAL,R4 CHKSUM CHECKSUM ALL OF ALLOCAT DATA
 CW,R5 J,BASE CHECKSUM CHECK
 BE KRD2 YES
 S SCREECH CODE 89=10
 S REPORTED BY: ALLOCAT
 S MESSAGE: ALLOCAT DATA CHECKSUM ERROR
 S TYPE: SCREECH
 SCREECH X'89',X'10' NO=CRASH *89*=10
 KRD2 EGU \$
 MTW,1 ALLYON SET 'ON' FLAG
 LW,0 ACNCFU+1 SAVE FILE SYSTEM POINTERS
 LW,1 ACNCFU+8
 LD,2 ALL0DIRA
 LW,4 SYSACTL
 LCI S
 STM,0 ACNFDA

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**** ALLYCAT ****

23

310
 311
 312
 313
 314 02 000A2 6A7001A9
 315 02 000A3 6B420000 X
 316 02 000A4 4B400008 N
 317 02 000A5 32F20001 N
 318 02 000A6 6AA8019D
 319 02 000A7 6B0000A2

*
 F NAME: ENDYET
 F PURPOSE: RETRIEVE A MESSAGE FROM COMBUFS AND PROCESS IT.
 *
 ENDYET BAL,R7 GBUF GO GET ENTRY - NON-RETURN AT ZERO
 INT,R4 COMBUF,R1
 AND,R4 M8
 LW,R15 COMBUF+1,R1
 BAL,R10 COMVEC,R4
 B ENDYET

**** ALLYCAT ****

```

321
322
323 02 000A8 6AB00166
324 02 000A9 221FFFFC A
325 02 000AA 6U000037 A
326 02 000AB 53020002 N
327 02 000AC 683000B3
328 02 000AD 09100000 N
329 02 000AE 720200BA
330 02 000AF 6AB200B9
331 02 000B0 6AB00000 X
332 02 000B1 08100000 N
333 02 000B2 680000AA
334 02 000B3 651000AA
335 02 000B4 680000A2
336 02 000B5 68000000 X
337 02 000B6 68000000 X
338 02 000B7 68000000 X
339 02 000B8 68000000 X
340 02 000B9 07 A
      02 000B9 1 0B A
      02 000B9 2 0U A
      02 000B9 3 0U A
341      02 000BA
  
```

```

*F* NAME: QUIESCE
*F* PURPOSE: EMPTY IN CORE BUFFERS INTO THE BITMAPS.
QUIESCE BAL,R11 FCB FREE COMM BUFFER
          LI,1 =4 EMPTY ALL BUFFERS

QE1 DISABLE
      MTH,0 WORDCNT+2,1 ANY LEFT HERE
      BEZ QE2 NO, TO THE NEXT ONE
      PUSH 1 SAVE INDEX
      LB,0 GT,1 GET DEVICE TYPE
      BAL,11 GG,1 GET ONE HERE
      BAL,11 CMNRG RELEASE IT
      PULL 1
      B QE1 TRY FOR MORE HERE
QE2 BIR,1 QE1 TO NEXT STACK
      B ENDYET TO NEXT REQUEST
      B GBG
      B GBG
      B GSG
      B GCYL
GG DATA,1 7,11,0,0

GT EQU *
```

343			*F*	NAME: ADJBUFS		
344			*F*	PURPOSE: ADJUST INCORE BUFFER LEVELS TO OPTIMUM VALUES.		
345		02 000BA	ADJBUFS	EQU	9	
346	02	000BA	22100004	A	SETINDEX LI,R1	4 SET INDEX FOR # OF BUFS
348	02	000BB	60000027	A	NEXTBUF ENABLE	
349	02	000BC	201FFFFFF	A	AI,R1	=1 DECREMENT INDEX
350	02	000BD	691001BD		BLZ	NOMORE AND EXIT IF NO MORE BUFS
351	02	000BE	21100002	A	CI,R1	2 IF SYMBIOT, DONT ALLCATE
352	02	000BF	693000C3		BNE	*+4 NLESS RBBAT SAYS ITS O.K.
353	02	000C0	22500000	A	LI,R5	X'8000'
354	02	000C1	30000000	X	MTW,0	SIRBBRN SET EMPTY INSTEAD (STEAL PFA)
355	02	000C2	683000E9		BEZ	SETFLAG
357	02	000C3	60000037	A	DISABLF	
358	02	000C4	52020000	X	LH,R0	BUFLAGS,R1 GET OLD FLAGS
359	02	000C5	21006001	A	CI,R0	X'6001'
360	02	000C6	694000BB		BANZ	NEXTBUF HAS SSS RUN/OR IN PROGRESS FLAG SET
361	02	000C7	20000001	A	AI,R0	1 NOT FOR THIS ONE YET
362	02	000C8	55020000	X	STH,R0	BUFLAGS,R1 SET IN PROGRESS FLAG
363	02	000C9	22000000	A	LI,R0	0 AND SAVE IT
364	02	000CA	55020000	X	STH,R0	ADJSTCNT,R1 YES
365	02	000CB	52220000	X	LH,R2	WORDCNT,R1 RESET COUNTER
366	02	000CC	69100164		BLZ	ALLYERROR GET COUNT IN BUFFER
367	02	000CD	51220000	X	CH,2	LOLEVEL,1 SOMEONE BLEW IT
368	02	000CE	682000EB		BLE	FILL
369	02	000CF	51220000	X	CH,2	HILEVEL,1 FILL IF LOW
370	02	000D0	682000BB		BLE	AVG:ADJ BUFFER IS OPTIMUM
371	02	000D1	58220000	X	SH,2	LOLEVEL,1 CALCULATE # TO REMOVE
372	02	000D2	52320000	X	LH,R3	BOTTOM,R1 GET BOTTOM DISP
373	02	000D3	30300002	A	AW,R3	R? MAKE TEMPBOT DISP
374	02	000D4	48320000	X	AND,R3	BUFMASK,R1 LOOK FOR WRAPAROUND
375	02	000D5	55320000	X	STH,R3	BOTTOM,R1 SET BOTTOM
376	02	000D6	52320000	X	LH,R3	TEMPBOT,R1 START AT LOW END
377	02	000D7	32420000	X	LW,R4	CATBUF,R1 GET LOC OF BUFFER
378	02	000D8	60000027	A	ENABLE	
379	02	000D9	59F20000	X	EMPTY1 MTH,-1	ADJSTCNT,R1 DECREMENT WORD COUNT 1ST FOR TSTHGP

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**** ALLYCAT ****

26

380 02 000DA 22800000 A
381 02 000DB C6860004 A
382 02 000DC 32500008 A

LI,R8 0
XW,R8 *R4,R3
LW,R5 R8

RESET OLD / GET ONE OUT
REMEMBER IT IN R5

383
384
385
386
387

*
* UPDATE POINTER AND WORD COUNT FIRST. THEN IF A CRASH
* OCCURS BETWEEN RELEASING THE GRANULE AND UPDATING THE
* POINTER... WE LOSE ONE GRANULE INSTEAD OF TRYING TO
* RELEASE A RELEASED GRANULE LATER.

389 02 000DD 20300001 A
390 02 000DE 45320000 X
391 02 000DF 02200050 A
02 000E0 05100000 N

AI,R3 1
AND,R3 BUFMASK,R1
PUSH 5,1

INCREMENT DISPLACEMENT
LOOK FOR WRAPAROUND

392 02 000E1 6AB00000 X
393 02 000E2 02200050 A
02 000E3 0A100000 N

BAL,11 CMNRG
PULL 5,1

RELEASE A GRANULE/CYL ETC.

394 02 000E4 20800000 A
395 02 000E5 693000E7
396 02 000E6 6AB001B2

AI,R8 0
BNEZ EMP3
BAL,R11 LOGERR

RESET THE CC
CONTINUE IF WE GOT ONE
LOG AN ERROR

397 02 000E7
398 02 000E7 642000D9
399 02 000E8 22504000 A

EMP3
EQU \$
BDR,R2 EMPTY1
LI,R5 X140001

CONTINUE EMPTYING
FLAG TO SHOW

400 02 000E9 55520000 X
401 02 000E9
402 02 000EA 680000BB

SETFLAG
AVG:ADJ
STH,R5 BUFLAGS,R1
EQU NEXTBUF
B NEXTBUF

SET NEW FLAG(S)
CONTINUE ALONG

```

404
405
406
407 02 000EB
408 02 000EB 58220000 X
409 02 000EC 52320000 X
410 02 000ED 30300002 A
411 02 000EE 48320000 X
412 02 000EF 55320000 X
413 02 000F0 32420000 X
414 02 000F1 60000027 A
415 02 000F2 52320000 X
416 02 000F3 02200040 A
      02 000F4 08100000 N
417 02 000F5 6A800000 X
418 02 000F6 02200040 A
      02 000F7 0A100000 N
419 02 000F8 20800000 A
420 02 000F9 693000FD
421 02 000FA 2250A000 A
422 02 000FB 55320000 X
423 02 000FC 680000E9
424 02 000FD 203FFFFFF A
425 02 000FE 48320000 X
426 02 000FF 85860004 A
427 02 00100 53120000 X
428 02 00101 652000F3
429 02 00102 22502000 A
430 02 00103 680000E9

```

*
* FILL BUFFER TO OPTIMUM LEVEL
*

```

FILL RES
      SH,2 HILEVEL,1 CALCULATE HOW MANY TO ADD
      LH,R3 BOTTOM,R1 MOVE TEMPBOT DOWN
      AW,3 2 2 IS NEGATIVE
      AND,R3 BUFMASK,R1 LOOK FOR WRAPAROUND
      STH,R3 TEMPBOT,R1 NOW WE CAN ENABLE
      LW,R4 CATBUF,R1 GET LOC OF BUFFER
      LH,3 BOTTOM,1 FILL DOWN FROM THE BOTTOM
      PUSH 4,1 SAVE REQUIRED REGS

```

```

      BAL,11 CMNGG
      PULL 4,1

```

```

      AI,R8 0 RESET THE CC
      BNEZ FILL2 GOT ONE
      LI,R5 X1A000! EMPTY/JUST FILLED
      STH,R3 TEMPBOT,R1 TELL SWAPPER WHERE WE STOPPED
      B SETFLAG AND GIVE UP ON THIS ONE
      AI,R3 =1 BACK UP ONE FOR NEXT SPOT TO FILL
      AND,R3 BUFMASK,R1
      STW,R8 *R4,R3 PUT IT IN PLACE
      MTH,1 ADJUSTCNT,R1 INCREMENT WORD COUNT
      BIR,2 FILL1 ADD ANOTHER ONE
      LI,R5 X:2000! JUST FILLED FLAG
      B SETFLAG PUT IT IN AND CONTINUE

```

FILL1

FILL2

```

432
433
434
435      02 00104
436 02 00104 7200000F A
437 02 00105 4BF00018 N
438 02 00106 09100000 X
439 02 00107 20000080 A
440 02 00108 6AB00000 X
441 02 00109 6930010C
442 02 0010A 4B000004 N
443 02 0010B 6AB00000 X
444 02 0010C 08100000 X
445 02 0010D 35820001 N
446 02 0010E 35F20000 X
447 02 0010F 680000A2

```

```

*
*F*
*F*
GETN

```

```

NAME: GETN
PURPOSE: ALLOCATE N CONTIGUOUS GRANULES.
EQU      $
LB,R0    R15      DEV TYPE INTO REG 0
AND,R15  M24      REMOVE GARBAGE FROM #
PSW,R1   TSTACK   SAVE COMM BUF NUMBER
AI,R0    X'80'    TRY CYL FIRST
BAL,11   CMNGNG   GET THE GRANS OR CYLS
BNE      $+3
AND,R0   M4       THEN TRY GRAN DEVICES
BAL,11   CMNGNG
PLW,R1   TSTACK   RESTORE BUFFER NUMBER
STW,R8   COMBUF+1,R1 PUT THE DA AWAY
STW,15   COMBUF,1 SET # ALLOCATED
B        ENDYET   LEAVE MSG SITTING WHERE IT IS

```

```

449
450
451
452
453      02 00110
454 02 00110 3280000F A
455 02 00111 40800018 N
456 02 00112 09800000 N
457 02 00113 32F20000 X
458 02 00114 40F00010 N
459 02 00115 6AB00166
460 02 00116 6AB00000 X
461 02 00117 00500000 N
462 02 00118 20800000 A
463 02 00119 693000A2
464 02 0011A 6AB001B2
465 02 0011B 600000A2
    
```

```

*
*F*
*F*
*
RELN
    
```

```

NAME: RELN
PURPOSE: RELEASE N CONTIGUOUS GRANULES OR CYLINDERS.
    
```

```

EQU      *
LW,R8    R15      PUT # TO REL IN R 8
AND,R8    M24      MASK OFF THE GARBAGE
PUSH      R8       REMEMBER DISK ADDRS IN STACK
LW,R15    COMBUF,R1 GET # TO RELEASE
AND,R15    M16      REMOVE GARBAGE
BAL,R11    FCB      RELEASE COMBUF ENTRY NOW
BAL,11     CMNRNG
PULL      R5       RESTORE D/A TO REG#5
AI,R8     0        RELEASE GO OK
BNEZ      ENDYET   YES, GO ON
BAL,R11    LOGERR   WAS NOT OK
B          ENDYET   ALL DONE
    
```

```

467
468
469
470
471
472      02 00110
473 02 0011C 09100000 N
474 02 0011D 32120001 N
475 02 0011E 25100065 A
476 02 0011F 3292012C
477 02 00120 22B00127
478 02 00121 64000037 A
479 02 00122 52020000 X
480 02 00123 68300000 X
481 02 00124 7202012E
482 02 00125 64100000 X
483 02 00126 68000000 X
484 02 00127 6930012F
485 02 00128 25900008 A
486 02 00129 72100009 A
487 02 0012A 64900120
488 02 0012B 6800012F
489 02 0012C 00 A
      02 0012C 1 01 A
      02 0012C 2 03 A
      02 0012C 3 FF A
490 02 0012D 01 A
      02 0012D 1 00 A
      02 0012D 2 03 A
      02 0012D 3 FF A
491 02 0012E 07 A
      02 0012E 1 0B A
      02 0012E 2 00 A
      02 0012E 3 8B A
492 02 0012F 82100000 X
493 02 00130 35820000 X
494 02 00131 6AB0002E

```

```

*
*F* NAME: GSBP
*F* PURPOSE: ALLOCATE A SEPARATED PAIR FOR DIRECTORIES.
*
*
GSBP EQU *
      PUSH 1 SAVE COMBUF ADDRESS
      LW,1 COMBUF+1,1 GET DEVICE TYPE FOR FIRST
      SLS,1 =24=3 AS STACK INDEX
      LW,9 GSBP3,1 GET PROPER DEV TYPE SEQUENCE
      LI,11 GSBP2 SET RETURN FROM GET GRAN
      DISABLEF DONT LET ANYBODY STEAL THE LAST STAC
      LH,0 WORDCNT,1 GET FROM STACK IF THERE'S ANY THERE
      BEZ CMNGG NONE, GET FROM BITMAP
      LB,0 GSBP4,1 SET DEVICE TYPE FOR GBG
      BDR,1 GCYL GET CYL IF 1 WAS 3
      B GBG
      BNEZ GSBP5 GOT ONE
      SLS,9 8 TRY NEXT TYPE
      LB,1 9 IF THERE IS PNE
      BDR,9 GSBP1
      B GSBP5 NONE ANYWHERE..EXIT UNHAPPY
      DATA,1 0,1,3,255 RAD => PACK => CYL => GIVE UP
      DATA,1 1,0,3,255 PACK => RAD => CYL => GIVE UP
      DATA,1 7,11,0,X,8B1 DEVICE TYPES BY STACK #
      LW,1 *TSTACK GET COMBUF INDEX
      STW,8 COMBUF,1 SAVE FIRST ADDRESS
      BAL,11 HGPCNT MAKE SURE EMPTY BITS ARE ACCURATE

```

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**** ALLYCAT ****

31

495 02 00132 6A300000 X
 496 02 00133 68300161
 497 02 00134 723A0000 X
 498 02 00135 22800000 A
 499
 500
 501 02 00136 320001E6
 502 02 00137 221FFFFFF A
 503 02 00138 22600006 A
 504 02 00139 22700000 N
 505 02 0013A F10C0007 A
 506 02 0013B 6930014A
 507 02 0013C 330E0006 A
 508 02 0013D 6820014A
 509 02 0013E 324E0001 A
 510 02 0013F 25400070 A
 511 02 00140 71380000 X
 512 02 00141 69300149
 513 02 00142 4970001F N
 514 02 00143 70200001 A
 515 02 00144 6840014A
 516 02 00145 31400005 A
 517 02 00146 69300149
 518 02 00147 6880014A
 519 02 00148 49700020 N
 520 02 00149 35700001 A
 521 02 0014A 327E0000 A
 522 02 0014B 6930013A
 523 02 0014C 211FFFFFF A
 524 02 0014D 69300152
 525 02 0014E 25000078 A
 526 02 0014F 20000000 A
 527 02 00150 69300138
 528 02 00151 68000155
 529 02 00152 2271FFFF A
 530 02 00153 48700001 A
 531 02 00154 6AB00000 X

*
*

GSBP6
GSBP7

GSBP8
GSBP9

GSBP10

BAL,3 FNDHGP
 BEZ GSBP14
 LB,3 DCT2,5
 LI,8 0
 * ON PACK => RAD => OR CYL TYPE,
 * BUT DIFFERENT CHANNEL OR AT LEAST DIFFERENT DEVICE
 LW,0 #X18B070B!
 LI,1 =1
 LI,6 6
 LI,7 HGP
 CB,0 *7,6
 BNE GSBP9
 MTW,0 6,7
 BLEZ GSBP9
 LW,4 1,7
 SLS,4 =16
 CB,3 DCT2,4
 BNE GSBP8
 BR,7 Y4
 LC 1
 BCR,4 GSBP9
 CW,4 5
 BNE GSBP8
 BCR,8 GSBP9
 BR,7 Y8
 STW,7 1
 LW,7 0,7
 BNEZ GSBP7
 CI,1 =1
 BNE GSBP10
 SLS,0 =8
 AI,0 0
 BNEZ GSBP6
 B GSBP11
 LI,7 X11FFFF!
 AND,7 1
 BAL,11 DCTGG

GET HGP ADDRESS IN 7, DCTX IN 5
 NONE ANYWHERE, GIVE UP
 CHANNEL #
 NOW SEARCH FOR A DEVICE FOR SECOND G
 INITIALIZE BEST HGP ADDRESS
 DISP TO DEVICE TYPE
 START OF HGPS
 IS THIS THE RIGHT TYPE
 NO, TRY THE NEXT ONE
 IS THERE ANY PFA LEFT HERE
 NO...
 GET DCT INDEX
 IS THIS THE SAME CHANNEL
 GOT A GOOD ONE
 SET SAME CHANNEL FLAG
 AND CHECK PREVIOUS FLAGS
 THEY WERE BETTER
 IS THIS THE SAME DEVICE
 NO...TAKE IT
 YES... BUT WEVE GOT A DIFFERENT ONE A
 SET SAME DEVICE FLAG
 UPDATE CURRENT BEST TRY
 HAVE WE SEARCHED THE WHOLE CHAIN
 NO, TRY THIS ONE
 DID WE GET ANYTHING
 YES...GET A GRANULE THERE
 NO, TRY NEXT DEVICE TYPE
 IF THERE ARE ANYMORE
 NONE...TRY STACKS
 GET HGP ADDRESS FOR DESIRED DEVICE
 GET A GRAN BY DCT

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**** ALLYCAT ****

32

532 02 00155 69300161 A
 533 02 00156 3290012D X
 534 02 00157 2280015E X
 535 02 00158 72100009 A
 536 02 00159 60000037 A
 537 02 0015A 53020000 X
 538 02 0015B 6830015E X
 539 02 0015C 64100000 X
 540 02 0015D 68000000 X
 541 02 0015E 69300161 A
 542 02 0015F 25900008 A
 543 02 00160 64900157 X
 544 02 00161 08100000 X
 545 02 00162 35820001 N
 546 02 00163 E800000A A

GSBP11 BNEZ
 LW,9
 GSBP12 LI,11
 LB,1
 DISABLEF
 MTH,0
 BEZ
 BDR,1
 B
 GSBP13 BNEZ
 SLS,9
 BDR,9
 GSBP14 PLW,1
 STW,8
 B

GSBP14
 GSBP3+1
 GSBP13
 9
 WORDCNT,1
 GSBP13
 GCYL
 GBG
 GSBP14
 8
 GSBP12
 TSTACK
 COMBUF+1,1
 *10
 GOT ONE
 GET CHOICE SEQUENCE
 NEXT TYPE
 GOT ONE, FINALLY
 TRY AGAIN
 SAVE RESULTS IN COMBUF

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**** ALLYCAT ****

39

548
549
550
551
552
553
554
555
556 02 00164 0000000 X
02 00165 00870000 A

*
* THE STACK COUNT IS INVALID
*
S SCREECH CODE: 87=00
S REPORTED BY: ALLCAT
S MESSAGE: ALLOCATION BUFFER CONTAINS INVALID WORDCOUNT
S REGISTERS: R2=INVALID COUNT (NEGATIVE)
S R1=BUFFER INDEX
ALLYERROR SCRFECH X'87'

558
 559
 560
 561
 562
 563
 564 02 00166 60000037 A
 565 02 00167 32300001 A
 566 02 00168 20300000 N
 567 02 00169 72500000 X
 568 02 0016A F5500003 A
 569 02 0016B 75100000 X
 570 02 0016C 60000027 A
 571 02 0016D E800000B A

*
 *
 *
 *
 *
 *

RELEASE BUFFER BACK TO FREE CHAIN

FCB

DISABLE
 LW,R3 R1 BUFFER INDEX IN R1
 AI,R3 COMBUF CORE ADDRESS
 LB,R5 CBFHD CURRENT FREE HEAD
 STB,R5 *R3 LINKED INTO FREE CHAIN
 STB,R1 CBFHD LEAVE CURRENT AS NEW FREE HEAD
 ENABLE
 B *R11

```

573
574
575
576
577 02 0016E 6AB00166
578 02 0016F 55F00006 A
579 02 00170 25600079 A
580 02 00171 73700006 A
581 02 00172 2271FE00 A
582 02 00173 04800006 A
583 02 00174 3271FE01 A
584 02 00175 22800000 A
585 02 00176 468FFE03 A
586 02 00177 09700000 N
587 02 00178 6AB00000 X
588 02 00179 08700000 N
589 02 0017A 64700175
590 02 0017B 1571FE00 A
591      0001FE00
592 02 0017C 680000A2
    
```

```

*
*F* NAME: RELBUF
*F* PURPOSE: RELEASE A LIST OF DISC ADDRESSES (IN PAGE OF MEMORY).
*
RELBUF BAL,R11 FCB FREE UP COMBUF
      STH,15 6 GENERATE CVMCAL
      SLS,6 =7 WA PHYS PAGE
      MTB,7 6
      LI,7 CVMPAGE
      CAL,8 6 MAP INTO IT
      LW,7 CVMPAGE+1 # OF DISC ADDRESSES
RELBUF1 LI,8 0
      XW,8 CVMPAGE+3,7 GET/ZAP ADDRESS
      PUSH 7 SAVE COUNTER
      BAL,11 CMNRG
      PULL 7
      BDR,7 RELBUF1
      STD,7 CVMPAGE
CVMPAGE EQU X'1FE00' USE LAST VIRTUAL PAGE
      B ENDYET
    
```

594
595

F NAME: FILLPER
F PURPOSE: RELEASE ALL ALLOCATED SYMBIONT SPACE.

597	02	0017U	FILLPER	EQU	\$	
598	02	0017D	6AB00166	BAL,R11	FCB	GO AHEAD AND RELEASE BUFFER
599	02	0017E	22100002 A	LI,R1	2	SYMBIONT STACK POINTER
600	02	0017F	60000037 A	DISABLF		
601	02	00180	228FFFFFF A	LI,R8	=1	RESET EM ALL
602	02	00181	22700000 N	LI,R7	HGP	
603	02	00182	326E0004 A	FP1 LW,R6	4,R7	# OF PER WORDS
604	02	00183	52600006 A	LH,R6	R6	
605	02	00184	6830018B	BEZ	FP2	BRANCH IF NONE
606	02	00185	206FFFFFF A	AI,R6	=1	DONT SET LAST WORD
607			*			MAY NOT BE
608			*			COMPLETELY FULL
609	02	00186	604E0005 A	INT,4	5,7	START OF PER
610	02	00187	30400007 A	AW,4	7	
611	02	00188	204FFFFFF A	AI,4	=1	
612	02	00189	858C0004 A	STW,8	*4,6	
613	02	0018A	64600189	BDR,R6	\$-1	
614	02	0018B	327E0000 A	FP2 LW,R7	0,R7	
615	02	0018C	69300182	BNEZ	FP1	
616	02	0018D	22000000 A	LI,R0	0	RESET PER WORD
617	02	0018E	32720000 X	LW,7	CATBUF,R1	ZAP THE BUFFER
618	02	0018F	52620000 X	LH,6	BUFMASK,R1	
619	02	00190	850C0007 A	STW,R0	*7,6	
620	02	00191	64600190	BDR,6	\$-1	
621	02	00192	350E0000 A	STW,R0	0,7	
622	02	00193	55020000 X	STH,R0	WORDCNT,R1	
623	02	00194	55020000 X	STH,R0	TEMPBOT,R1	
624	02	00195	55020000 X	STH,R0	ADJSTCNT,R1	
625	02	00196	55020000 X	STH,R0	BUFLAGS,R1	
626	02	00197	55020000 X	STH,R0	BOTTOM,R1	
627	02	00198	35000000 X	STW,R0	SGB	#SYMB GRANS BUSY RESET
628	02	00199	55020000 X	STH,R0	TOP,R1	'TOP' TO 'BOTTOM'

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629 02 0019A 60000027 A
630 02 0019B 6A00002E
631 02 0019C 680000A2

ENABLE ***** ALLYCAT *****
BAL,R11 HGPCNT
B ENDYET

RESTORE GRANULES AVAILABLE TABLES
DO NEXT COMBUF

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633

**** ALLYCAT ****

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* BRANCH VECTOR TABLES

635	02	0019D	6#0000104	COMVEC,	B	GETN
636	02	0019E	6#0000110		B	RELN
637	02	0019F	6#000011C		B	GSP
638	02	001A0	6#0000A2		B	ENDYET
639	02	001A1	6#000016E		B	RELBUF
640	02	001A2	6#0000A8		B	QUIESCE
641	02	001A3	6#000017D		B	FILLPER
642	02	001A4	6#0000A2		B	ENDYET
643	02	001A5	6#00001A6		B	COUNTBITS

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**** ALLYCAT ****

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645
646
647
648
649
650
651 02 001A6 6AB00166
652 02 001A7 6AB0002E
653 02 001A8 680000A2

```
*
* IF A COMBUF ENTRY CODE OF '08' IS PASSED, ALLYCAT
* WILL COUNT UP THE BITS IN ALL OF THE HGPS AND SET
* AGRAVAIL AND GRAVAIL UP. THE KEYIN 'DISP DISC'
* SHOULD TRIGGER THIS FUNCTION.
*
COUNTBITS BAL,R11 FCB          GO AHEAD AND RELEASE BUFFER
              BAL,R11 HGPCNT     COUNT UP BITS
              B                   DO NEXT BUFFER
              ENDYET
```


655
656
657
658
659 02 001A9 6U000037 A
660 02 001AA 72400000 X
661 02 001AB 683000BA
662 02 001AC 32100004 A
663 02 001AD 20400000 N
664 02 001AE F2400004 A
665 02 001AF 75400000 X
666 02 001B0 6U000027 A
667 02 001B1 680E0000 A

*
*
*
*

GBUF

GET NEXT ENTRY ON ALLYCAT'S CHAIN, TAKE ITS
FLINK AND LEAVE IT AS NEXT ON CHAIN

DISABLEF	LEAVE US INTERACTIVE W/SYMBIANTS
LB,R4 CBAHD	GET HEAD
BEZ ADJBUFS	NONE, START LOOKING AT D/A TABLES
LW,R1 R4	RETURN IT IN R1
AI,R4 COMBUF	
LB,R4 *R4	GET ITS FLINK
STB,R4 CBAHD	LEAVE IT AS NEXT ONE
ENABLE	
B O,R7	AND EXIT

670	02	001B2	02200070	A	LOGERR	PUSH	7,R5	SAVE THE REGISTERS
	02	001B3	0A500000	N				
671	02	001B4	22600008	A		LI,R6	8	ADDRESS OF ERR MSG
672	02	001B5	3060001E	N		AW,R6	Y2	SET FLAG FOR ERHDLR
673	02	001B6	328001E7			LW,R8	'X'24040000'	ERR MSG CODE/COUNT
674	02	001B7	32A00005	A		LW,R10	R5	GET DISC ADDRESS IN ERROR
675	02	001B8	32B001E8			LW,R11	'ACAT'	FLAG FOR ERROR RECORD
676	02	001B9	6A500000	X		BAL,R5	ERRLOG	WRITE THE ENTRY
677	02	001BA	02200070	A		PULL	7,R5	RESTORE THE REGISTERS
	02	001BB	0A500000	N				
678	02	001BC	E800000B	A		B	*R11	AND RETURN

**** ALLYCAT ****

* ALL BUFFERS HAVE BEEN ADJUSTED... THIS IS THE EXIT.

1*	02	001B0	32000000	X	NOMBRE	LW,0	GRAVAIL	
2*	02	001B1	30000001	N		AW,0	GRAVAIL+1	
3*	02	001B2	30000003	N		AW,0	GRAVAIL+3	
4*	02	001C0	31000000	X		CW,0	GRANMIN	
5*	02	001C1	681001C4			BGE	NBPURGE	
6*	02	001C2	120001E4			LD,0	BACKUP	
7*	02	001C3	6AA00000	X		BAL,10	T:GJOBSTRT	
687	02	001C4	32000000	X	NBPURGE	LW,0	UBISWAPI	GET SWAPI OF RBBAT
688	02	001C5	32200001	N		LW,2	UH:JIT+1	AND JITDA
689	02	001C6	55000002	A		STH,0	2	
690	02	001C7	68300001	N		INT,3	UH:AJIT+1	ALSO AJIT
691	02	001C8	15200000	X		STD,2	SAMJSIT	
692	02	001C9	22800093			LI,11	ALLOCAT	RETURN FROM REG
693	02	001CA			WAIT	EQU	*	
694	02	001CA	2207FFFF	A		LI,R0	X:7FFFF!	
695	02	001CB	35000002	N		STW,R0	U:MISC+2	AND RESTORE VALUE
696	02	001CC	22000002	A		LI,R0	2	
697	02	001CD	35000000	X		STW,R0	ALLOUT	
698	02	001CE	22100000	A		LI,R1	0	
699	02	001CF	35100000	X		STW,R1	J:BASE	CLEAR OLD CHECKSUM
700	02	001D0	6A6001D3			BAL,R6	CHKSUM	COMPUTE NEW CHECKSUM
701	02	001D1	22600000	N		LI,R6	E:SL	
702	02	001D2	68000000	X		B	T:REG	EXIT TO SLEEP
704	02	001D3			CHKSUM	EQU	*	
705	02	001D3	22100000	N		LI,R1	HGP	START OF DATA
706	02	001D4	223FFFFFF	A		LI,R3	=1	MASK TO ADD ALL 32 WORDS
707	02	001D5	2240007F	N		LI,R4	ALLYEND=HGP+127	DATA SIZE
708	02	001D6	25400079	A		SLS,R4	=7	NUMBER OF 128 WORD BLOCKS TO CHECKSU
709	02	001D7	29220000	A	KRD4	CVA,R2	0,R1	ADD UP 32 WORDS
710	02	001D8	66200000	X		AWM,R2	J:BASE	

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711	02	001D9	29220020	A
712	02	001DA	66200000	X
713	02	001DB	29220040	A
714	02	001DC	66200000	X
715	02	001DD	29220060	A
716	02	001DE	66200000	X
717	02	001DF	20100080	A
718	02	001E0	644001D7	
719	02	001E1	E8000006	A

CVA,R2	32,R1
AWM,R2	JIBASE
CVA,R2	64,R1
AWM,R2	JIBASE
CVA,R2	96,R1
AWM,R2	JIBASE
AI,R1	128
BDR,R4	KRD4
B	*R6

**** ALLYCAT ****

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POINT TO NEXT 128 WORD BLOCK

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**** ALLYCAT ****

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* DATA

731 02 001E2 00000000 A SYS GEN,8,24 8,0
732 BOUND 8
733 02 001E4 04C6C9D3 A BACKUP TEXTC 'FILL'
02 001E5 D3404040 A

735 02 00000 END ALLYCAT
02 001E6 008B070B A
02 001E7 24040000 A
02 001E8 C1C3C1E3 A

CONTROL SECTION SUMMARY: 01 00000 PT 0 02 001E9 PT 1

* SYMBOL VALUES

ADJBUFS/02 000BA
 ALLY8N/EXT
 BITS/00000001
 CBUNTEM/02 0005U
 CVMPAGE/0001FE0U
 DISCBPR8C/00000001
 FCB/02 00166
 FILL2/02 000FD
 GETN/02 00104
 GSBP10/02 00152
 GSBP14/02 00161
 GSBP5/02 0012F
 GSBP9/02 0014A
 HGPCNT/02 0002E
 INCR/02 0008B
 LOGERR/02 001B2
 M10/0000000A S
 M14/0000000E S
 M18/00000012 S
 M21/00000015 S
 M25/00000019 S
 M29/0000001U S
 M32/00000020 S
 M7/00000007 S
 NEXTHGP/02 00036
 N8TCYL/02 00047
 QUIESCE/02 000A8
 R\$STSECTA/00000000
 RELN/02 00110
 R11/0000000B
 R15/0000000F
 R5/00000005
 R9/00000009
 SYS/02 001E2
 WAIT/02 001CA
 X1000/0000000D S

AGRAVAIL/00000001 S
 ANSPR8C/00000000
 CHKSUM/02 001D3
 CBUNTEM1/02 00058
 DCBPR8C/00000000
 EMPTY1/02 000D9
 FILL/02 000EB
 FP1/02 00182
 GG/02 000B9
 GSBP11/02 00155
 GSBP2/02 00127
 GSBP6/02 00138
 GT/02 000BA
 HGPD8NE/02 00082
 INCR1/02 00091
 M8NPR8C/00000000
 M11/0000000B S
 M15/0000000F S
 M19/00000013 S
 M22/00000016 S
 M26/0000001A S
 M3/00000003 S
 M4/00000004 S
 M8/00000008 S
 N8AJ/02 00013
 N8TRAD/02 0004D
 R\$LDCTX/00000000
 RELBUF/02 0016E
 R0/00000000
 R12/0000000C
 R2/00000002
 R6/00000006
 SECT\$FLD/LIST
 S69PR8C/00000001
 X1/00000001 S
 X2/00000002 S

ALL8CAT/02 00093
 AVG\$ADJ/02 000BB
 CBMVEC/02 0019D
 CBUNTEM2/02 0005A
 DCT\$FLD/LIST
 EMP3/02 000E7
 FILLPER/02 0017D
 FP2/02 0018B
 GSBP/02 0011C
 GSBP12/02 00157
 GSBP3/02 0012C
 GSBP7/02 0013A
 HGPCHAIN/02 0006C
 HGPLINK/02 00078
 KR2/02 0009B
 MPBITS/00000000
 M12/0000000C S
 M16/00000010 S
 M2/00000002 S
 M23/00000017 S
 M27/0000001B S
 M30/0000001E S
 M5/00000005 S
 M9/00000009 S
 N8M8RE/02 0018D
 GE1/02 000AA
 R\$LSECTA/00000000
 RELBUF1/02 00175
 R1/00000001
 R13/0000000D
 R3/00000003
 R7/00000007
 SETFLAG/02 000E9
 UFLAGS/00000000
 X10/00000005 S
 X20/00000006 S

ALLYERR8R/02 00164
 BACKUP/02 001E4
 CBUNTBITS/02 001A6
 CBUNTEM3/02 00067
 DCT\$SHIFT\$AMT/00000010
 ENDYET/02 000A2
 FILL1/02 000F3
 GBUF/02 001A9
 GSBP1/02 00120
 GSBP13/02 0015E
 GSBP4/02 0012E
 GSBP8/02 00149
 HGPC2/02 00073
 HGPSBL8WN/02 0007D
 KR4/02 001D7
 M1/00000001 S
 M13/0000000D S
 M17/00000011 S
 M20/00000014 S
 M24/00000018 S
 M28/0000001C S
 M31/0000001F S
 M6/00000006 S
 NEXTBUF/02 000BB
 N8PURGE/02 001C4
 GE2/02 000B3
 R\$STDCTX/00000000
 RELIT/02 00014
 R10/0000000A
 R14/0000000E
 R4/00000004
 R8/00000008
 SETINDEX/02 000BA
 UTSPR8C/00000001
 X100/00000009 S
 X200/0000000A S

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X2000/0000000E S
X4000/0000000F S
X8000/00000010 S
Y0008/00000014 S
Y008/00000018 S
Y08/0000001C S
Y8/00000020 S

X4/00000003 S
X8/00000004 S
Y0001/00000011 S
Y001/00000015 S
Y01/00000019 S
Y1/0000001D S
1A1/02 0000P

**** ALLYCAT ****

X40/00000007 S
X80/00000008 S
Y0002/00000012 S
Y002/00000016 S
Y02/0000001A S
Y2/0000001E S
1A2/02 0000B

X400/0000000B S
X800/0000000C S
Y0004/00000013 S
Y004/00000017 S
Y04/0000001B S
Y4/0000001F S

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* EXTERNAL DEFINITIONS

ALLYCAT/02 0000U

HGP;LIMS/02 00080

HGPTEST/02 0007B

* PRIMARY REFERENCES

ACNCFU ACNFDA
BT31T00 BUFLAGS
CMNGNG CMNRG
E:SL ERRLOG
GSG HGP
JBUPVP JHIDA
M:XX MASKS
SYSACTL TIGJOBSTRY
TSTACK UIMISC
WORDCNT

ADJUSTCNT
BUFMASK
CMNRNG
FNDHGP
HGFSIZE
JXBUFVP
MB:GAM6
T:RBUF
UB:PCT

ALL0DIRA
CATBUF
C0MBUF
GBG
HGPTYPE
LFGUN
RCVPSD
T:REG
UB:PRI0B

ALL00UT
CBAHD
DCTGG
GCYL
HILEVEL
L0LEVEL
S:RBBRN
TISGR
UB:SWAP1

ALLYEND
CBFHD
DCT2
GRANMIN
J:BASE
M:ADRINCR
SAMSJIT
TEMP00T
UH:AJIT

B0TT0M
CMNGG
DCT24
GRAVAIL
JB:LMAP
M:GASLIM
SGB
T0P
UH:JIT

- * NO SECONDARY REFERENCES
- * NO UNDEFINED SYMBOLS
- * ERROR SEVERITY LEVEL: 0
- * NO ERROR LINES