

DARSPA .. INTERNAL DISK SYSTEM ACCOUNTING
STORAGE ALLOCATION.

COMPASS - VER 2. 09/02/71 14.25.10.

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ADDRESS	LENGTH	BINARY CONTROL CARDS.
0	106	IDENT DARSPA
106		END

ENTRY POINTS.

DARSPA - 0

EXTERNAL SYMBOLS.

DDSIPL	WRITCAP	MYSWECS	DASSPAC	M.SWAB	DUNLOCK	OPERC1
GF.DDSF	DARADDR	DAR	DASPEND	SYSAB	PROCADR	IPLIST
GF.DDSL	TEMPY	DASLEN	MAINCL	USERAB	SYSERR	ECL:GRAB
READCAP	MYFXOCC	DASFILS	M.MSTAB	DLLOCK	TEMPZ	

	IDENT	DARSPA
*	MACROS	XTEXT
*	SYSCALL	XTEXT
*	EXT	DOSIPL,GF,DDSF,GF,DDSL,READCAP,WRITCAP
EXT	DARADDR,TEMPY	
EXT	MYFXOCC,MYSWECS	
EXT	DAR,DASLEN,DASFILS,DASSPAC,DASPEND	
EXT	MATNCL,M,MSTAB,M,SWAR	
EXT	SYSAB,USERAB	
EXT	BLOCK,DUNLOCK,PROCADR,SYSERR,TEMPZ	
*	EXT	OPERCL,IPLIST
*	MACSET	OPERCL,IPLIST,ECS

ENTRY DARSPA

* DARSPA :: INTERNAL DISK SYSTEM ACCOUNTING INTERFACE. CALLED BY VARIOUS
* PARTS OF DISK SYSTEM TO ACCOUNT FOR RESOURCES USED TO
* SERVICE THE VARIOUS USER CALLS.

* ON ENTRY: R3 = DDS ADDRESS OF THE RESPONSIBLE DÄR.
* R4 = COMMODITY CODE, IDENTIFYING THE RESOURCE
* BEING ALLOCATED/FREED!

CODE	RESOURCE
0	SWAPPED ECS
1	FIXED ECS
2	DISK SPACE
3	DISK FILES
4	DDS RECORDS

* R5 = AMOUNT (POS FOR ALLOCATING RESOURCE,
* NEG FOR FREEING RESOURCE.)

* R6 = RETURN LINK, POSSIBLY MODIFIED:

RETURNS TO	CASE
B6	NORMAL
B6-1	INSUFFICIENT FUNDS
B6-2	USER AB CAP HAS GONE BAD

* GUARANTEED NOT TO TOUCH: B1, B2, X2, B5, B7, DARADDR

* CHECK FOR BAD COMMODITY CODE

0	0640000001 +	DARSPA	PL	RJ	R4=DARSPA1 SYSERR	COMMODITY CODE NEGATIVE
1	714477771 +	DARSPA1	SX4	NG	R4=DARNJPS X4=DARSPA2	
2	0100000000 X			RJ	SYSERR	COMMODITY CODE TOO BIG
3	0240000004 +	DARSPA2	JP		R4=DARUTAB	JUMP THROUGH TABLE

* DARSPA JUMP TABLE (INDEXED BY COMMODITY CODE)

4	DARUTAB	BSS	JP	DARSECS	SWAPPED ECS
5	0200000012 +		+	R6 (DARFECS)	FIXED ECS (TEMP TURNER OFF)
6	0260000000		+	DARDISK	DISK SPACE
7	0200000051 +		+	DARFILE	FILE COUNTER
10	0260000000		+	R6 (DARDDS)	DDS RECORDS
11	0200000064 +		+	DARPEND	PENDING ACTION COUNTER
12			BSS	0	
6	DARNJPS	EQU		*-DARUTAB	

* COMMODITY = SWAPPED ECS

12 6130000000 X

6140000014 *

DARSECS SB3

CALLX

MYSWECS

USEMORE,B4

ADDR OF SWAPPED ECS DESCRIPTOR

INCREMENT IN-USE

INSUFFICIENT-FUNDS RETURN

NORMAL RETURN

14 026077776

15 0260000000

JP

JP

B6-1 * DARSECS1

B6

SX6 MAXBLK

MARGIN = MAX SIZE
DATA BLK

* COMMODITY = FIXED ECS -- MOVE THE SPACE BETWEEN THE LOCAL USER ALLOCATION BLOCK AND THE DISK SYSTEM SWAPPED ECS ALLOCATION BLOCK.

NOTE:

A) MASTER_ALLOC_BLK PRESENTED AS AUTHORITY TO GRAB.
B) IF USER_AB_CAP HAS GONE BAD, SPECIAL RETURN TO CALLER OF DARSPA CAUSES CLEANUP AND ERROR RETURN TO CALLER OF DISKSYS.

SYSTEM ALLOCATION BLOCK AND MASTER ALLOCATION BLOCK DUE TO FATHER-SON RESTRICTIONS ON MOVE.

16 075000033 *

7160000000 X

DARFECS NG

R5,DARFECS2 HUMP IF MOVE OTHER WAY

32 020000047 *

GRABECS JP USERAB, (MAINCL,M,SWAB), (MAINCL,M,MSTAB), B6+B6-1
DARFECS3

33 7160000000 X

47 5140000000 X

76350

DARFECS2 GRABECS

(MAINCL,M,SWAB), USERAB, (MAINCL,M,MSTAB), -B6,FRET

DARFECS3 SA4

MYFXOCC

SX3

R5

IX6

X4+X3

SA6

A4

TNCR LOCAL FIXED ECS OCCUPIED

50 54640

0260000000

JP

R6

DARSECS1

SA4

MYSWECS + SD:RESV

CALLX

CHGSIZE,B4

GET SCHEDULER APPROVAL

BX6

X4

*

JP

AX6

3

MX7

30

BX6

X7*X6

INCR SWAPPED-SIZE BY 1/8

IX6

X4+X6

SA6

A4

* * * COMMODITY = DISK SPACE .. ADJUST OCCUPIED FIELD IN DAR

51 6140000052 + DARDISK CALLX GRABDAR,B4
 52 6130000000 X SB3 DASSPAC
 54 616677776 CALLX USEMORE,B4
 55 66460 SB6 B6=1
 6140000054 + CALLX FREEDAR,B4,B6

GET DAR
ADDRESS OF SPACE DESCRIPTOR

INSUFFICIENT-FUNDS RETURN
RELEASE DAR

(BX6 X0-X0)
PARAGRAPH = 0

* * * COMMODITY = FILE .. ADJUST FILE COUNTER

56 6140000057 + DARFILE CALLX GRABDAR,B4
 57 5140000000 X SA4 DASFILS
 58 73645 SX6 X4+B5
 60 0326000061 + PLI X6,DARFILE1

FILE COUNTER
ADJUST COUNTER

0100000000 X RJ SYSERR FILE COUNTER WENT NEGATIVE

61 43752 DARFILE1 MX7 40-18
 11474 BX4 X7*X4
 12646 BX6 X4+X6
 54640 SA6 A4

CLEAR OLD COUNTER VALUE
INSERT NEW COUNTER VALUE
UPDATE DAR

62 66460 CALLX FREEDAR,B4,B6

63 0100000000 X DARDDS RJ SYSERR THIS SHOULD BE TURNED OFF

* * * COMMODITY = PENDING ACTION

64 6140000065 + DARPEND CALLX GRABDAR,B4
 65 5140000000 X SA4 DASPEND
 66 76650 SX6 B5
 20636 LX6 30
 36646 IX6 X4+X6
 54640 SA6 A4

FREEDAR,B4,B6

* GRAB THE DAR

* ON ENTRY • R3 = DAR ADDR

* R4 = RETURN LINK

* SAVES OLD CONTENTS OF DARADDR

70	5140000000 X 10744	GRABDAR	SA4 BX7	DARADDR X4	
71	5170000000 X 76730		SA7	TEMPY	SAVE OLD DARADDR
72	5170000000 X 66360		SX7 SA7	R3 DARADDR	NEW DARADDR
			SB3	R6	SAVE B6 ACROSS LOCK
73	6160000074 + 10477		BX4 CALLX	X7 DLLOCK,B6	PARAMETER TO DLLOCK LOCK THE DAR
74	66630 0240000000		SB6 JP	R3 R4	RESTORE B6 RETURN

* FREE THE DAR

* ON ENTRY • DAR IS IN AND LOCKED

* R4 = RETURN LINK

* RESTORE OLD DARADDR SAVED BY GRABDAR

75	66360 6160000077 +	FREEDAR	SB3	R6	SAVE B6 ACROSS UNLOCK
77	66630 5150000000 X 10655		CALLX	UNLOCK,B6	
100	5160000000 X 0240000000		SB6	R3	RESTORE B6
			SA5 BX6 SA6	TEMPY X5 DARADDR	RESTORE OLD DARADDR
			JP	R4	RETURN

* ADJUST AMOUNT OF SPACE IN-USE IN SPACE DESCRIPTOR

* ON ENTRY... B3 = ADDR OF SPACE DESCRIPTOR

* B4 = RETURN LINK

* B5 = SPACE INCREMENT

* X6 = REQUIRED EXCESS SPACE

* ON EXIT... RETURNS TO B4+1 IF DESCRIPTOR ADJUSTED OK

B4 IF IN-USE WOULD HAVE EXCEEDED RESERVED

101	76350	USEMORE	SX3 SA4 IX6 * IX6 BX7 LX7 IX7 PL JP	85 B3+SDTINUS B4+X3 X6+X4 X6 30 X6-X7 X7, USEMORE1 B4	AMOUNT TO ADJUST BY IN-USE AND RESERVED TNCR IN-USE
102	10766		*		
103	20736				
104	37767	USEMORE1	SA6 JP	64 B4+1	COMPARE IN-USE W/ RESERVED JUMP IF RESERVED GE IN-USE INSUFFICIENT FUNDS RETURN
	0327000104				
	0240000000				
	54640				UPDATE DESCRIPTOR NORMAL RETURN
	0240000001				

105 0100000000 X FRET RJ SYSERR UNEXPECTED FRETURN

106 END

43577	STORAGE USED 6600 ASSEMBLY	376 STATEMENTS 7.633 SECONDS	61 SYMBOLS 90 REFERENCES	000010 INVENTED SYMBOLS
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DARSPA .. INTERNAL DISK SYSTEM ACCOUNTING
SYMBOLIC REFERENCE TABLE.

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DAR	0	EXTERNAL*					
DARADDR	0	EXTERNAL*	6/08	6/12 S	6/40 S		
DARDDS	63	PROGRAM*	5/31 L				
DARDISK	51	PROGRAM*	3/48	5/04 L			
DARFECS	16	PROGRAM*	4/26 L				
DARFECS2	33	PROGRAM*	4/26	4/32 L			
DARFECS3	47	PROGRAM*	4/29	4/33 L			
DARFILE	56	PROGRAM*	3/49	5/15 L			
DARFILE1	61	PROGRAM*	5/18	5/22 L			
DARJTAB	4	PROGRAM*	3/41	3/45 L	3/53		
DARNJPS	6		3/36	3/53 D			
DARPEND	64	PROGRAM*	3/51	5/38 L			
DARSECS	12	PROGRAM*	3/46	4/04 L			
DARSPA	0	PROGRAM*	3/01 E	3/33 L			
DARSPA1	1	PROGRAM*	3/33	3/36 L			
DARSPA2	3	PROGRAM*	3/37	3/41 L			
DASFILS	0	EXTERNAL*	5/16				
DASLEN	0	EXTERNAL*					
DASPEND	0	EXTERNAL*	5/39				
DASSPAC	0	EXTERNAL*	5/05				
DDSIPL	0	EXTERNAL*					
DLOCK	0	EXTERNAL*	6/18				
DUNLOCK	0	EXTERNAL*	6/35				
EC:GRAB	0	EXTERNAL*	4/29	4/33			
FREEDAR	75	PROGRAM*	5/09	5/28	5/46	6/32 L	
FRET	105	PROGRAM*	4/33	7/28 L			
GF:DDSF	0	EXTERNAL*					
GF:DDSL	0	EXTERNAL*					
GRABDAR	70	PROGRAM*	5/05	5/16	5/39	6/08 L	
IPLIST	0	EXTERNAL*	2/16				
IPI:LIST	0	EXTERNAL*	2/16 D	4/29 S	4/29 S	4/29	4/33 S
			4/29 S	4/29 S	4/29 S	4/33 S	4/33 S
MAINCL	0	EXTERNAL*	4/29	4/29	4/33	4/33	
MYFXOCC	0	EXTERNAL*	4/33				
MYSWCS	0	EXTERNAL*	4/04				
M:MSTAB	0	EXTERNAL*	4/29	4/33			
M:SWAB	0	EXTERNAL*	4/29	4/33			
OPERCL	0	EXTERNAL*	2/16				
OP:!!:CL	0	EXTERNAL*	2/16 D	4/28	4/32		
PROCADR	0	EXTERNAL*					
READCAP	0	EXTERNAL*					
SD:INUS	0		7/12				
SY\$AB	0	EXTERNAL*					
SY\$ERR	0	EXTERNAL*	3/34	3/39	5/20	5/31	7/28
TEMPY	0	EXTERNAL*	6/10 S	6/38			
TEMPZ	0	EXTERNAL*					
USEMORE	101	PROGRAM*	4/06	5/07	7/11 L		
USEMORE1	104	PROGRAM*	7/18	7/21 L			
USERAB	0	EXTERNAL*	4/29	4/33			
WRITCAP	0	EXTERNAL*					

14.22.52. 09/02/71 SCOP32D OF 08/27/71
14.22.59.\$! CM=18944/045000R AT CP= 0 SEC
14.23.10.NOMPASS,I=ACCTN,S=0
14.25.27. ASSEMBLY COMPLETE.
14.25.31.END
14.25.37.FIN
14.25.38.\$! USER CPU = 37.860 SEC
14.25.38.\$! SCOPE CPU = 6.720 SEC
14.25.38.\$! SCOPE ECS = 6.660 SEC
14.25.38.\$! SCOPE SWAP= 19.053 SEC
14.25.39.\$! DISK CPU = 8.487 SEC
14.25.39.\$! DISK ECS = 10.758 SEC
14.25.39.\$! DISK SWAP = 1.336 SEC
14.25.39.\$! SYSTEXT = 1854 LINES

14.28.22. 1867 LINES PRINTED BY PRINTER DRIVER ON LP 2.