STORAGE ADMINISTRATION

COURTESY OF

DTS SOFTWARE

THE ORIGINAL STORAGE MANAGEMENT EXPERTS

z/OS® POCKET GUIDE

VERSION 3.2
JULY 2023

TABLE OF CONTENTS

COMMON OUT-OF-SPACE ERROR CODES

ABEND/ERROR CODE	REASON
B14	PDS directory full at CLOSE
B37-04	Insufficient space/extents on current volume and no additional volumes available
B37-08	VTOC conversion routine failed
B37-0C	Too many open datasets on device
D37-04	No secondary space specified
E37-04	No more volumes specified
E37-08	No space available on new volume
E37-0C	DADSM exit rejected extend
837-08	Tape dataset requires gt 5 volumes
IEC070I 203-204	No secondary space specified
IEC070I 104-034	Max extents or max RBA limit reached
IEC070I 104-204	VSAM – Insufficient space on current volume and no additional volumes available, or max extents reached
DSNT408I SQLCODE–904 00D70025	Insufficient space to create a DB2 tablespace
00D70014	Insufficient space to extend a DB2 tablespace

DASD DEVICE INFORMATION
VTOC DSCB TYPES

0	Free	Available VTOC entry
1	Identifier	First 3 dataset extents
2	Index	ISAM indexes
3	Extension	4th and subsequent extents
4	VTOC	VTOC self-describing entry
5	Free space	Available extents (nonindexed VTOC)
6	Split	VSE split-cyl extent (no longer used)
7	Free space	Available extents > trk 65535 (nonindexed VTOC)
8	Identifier	First 3 dataset extents (EAV-eligible dataset)
9	Metadata	Additional data and F3 pointers (EAV-eligible dataset)

DASD DEVICE INFORMATION
DASD DEVICE CAPABILITIES

MODEL	CYLS	BYTES/TRK	GB/VOLUME
9345-1	1440	46456	1.00
9345-2	2156	46456	1.50
3380-J	885	47476	0.63
3380-E	1770	47476	1.26
3380-K	2655	47476	1.89
3390-1	1113	56664	0.95
3390-2	2226	56664	1.89
3390-3	3339	56664	2.83
3390-9	10017	56664	8.51
3390-27	32760	56664	27.84
3390-54	65520	56664	55.69
EAV1	262668	56664	223.00
EAV2	1182006	56664	1000.00

EAV architectural limit is 268,434,453 cylinders

DASD DEVICE INFORMATION
DEVICE TYPE CODES

DEVICE TYPE	UCBTYP CODE	MODEL
3380	3010 200E	
3390	3010 200F	
9345	3010 2004	
3400-2	30C0 8003	Models 3, 5, 7
3400-5	3200 8003	Models 4, 6, 8 (6250)
3400-6	3210 8003	Models 4, 6, 8 (6250/1600)
3400-9	3300 8003	3420C
3400-3	3400 8003	3430
3480	7800 8080	
3480X	7804 8080	3480 or 3490 with IDRC
3490	7804 8081	3490 enhanced
3590-1	7804 8083	3590
3592	7804 8083	

DASD DEVICE INFORMATION
DATASET TYPE CODES (UCBTYP)

DATASET TYPE	DEVTYPE CODE
DUMMY dataset	0000 0000
TSO terminal	0000 0101
SYSIN/SYSOUT	0000 0102
USS (HFS, zFS)	0000 0103

EXPDT
CONVENTIONS

99000 = retain until uncatalogued
99365 = permanent retention
99366 = permanent retention
99ccc = retain ‘ccc’ cycles
98000 = foreign tape
98ddd = retain until ‘ddd’ days unused
97000 = retain until uncatalogued, then erase (DFSMSrmm)
90ddd = retain min of ‘ddd’ days, then until uncatalogued

TAPE LABEL
PROCESSING

1,SL = 2,BLP
2,SL = 5,BLP
3,SL = 8,BLP
4,SL = 11,BLP
in general, BLP = 3*SL - 1

VOLUME MOUNTING & USAGE
NON-SMS DASD VOLUME USE ATTRIBUTES

USE ATTRIBUTE	PERM DATASETS	TEMPORARY DATASETS
PRIVATE	only if VOL=	only if VOL=
PUBLIC	only if VOL=	if no VOL=
STORAGE	only if VOL=	if no VOL= and no PUBLIC available

If the 'PRIVATE' subparameter of VOL= is specified, then the volume must have a use attribute of PRIVATE.

VOLUME MOUNTING & USAGE
VOLUME MOUNT ATTRIBUTES

PERMRES – Volume cannot be demounted

RESERVED – Volume remains mounted until explicitly UNLOADed

REMOVABLE – Volume demounted at end of job/ when needed

MOUNT VOLUME
ON UNIT

```
MOUNT /nnnn,VOL=(SL,serial),USE=STORAGE
       Devt          NL          PUBLIC
                     AL          PRIVATE
```

BLOCKSIZES & CAPACITIES
3390 DEVICE SPACE CALCULATION

(IBM Standard R0, equal length records)

```
   physical recs/trk = 1729/(10+K+D)
where
D = 9 + (DATALEN +
   (6 X ((DATALEN+6)/232)) + 6)/34 and K =
0 if no key, otherwise
K = 9 +(KEYLEN +
   (6 X ((KEYLEN+6)/232)) + 6)/34
```

BLOCKSIZES & CAPACITIES

3390 BLOCKSIZE CHART

Equal length physical records without keys, IBM Standard R0

MIN RECSZ	MAX RECSZ	PCT USED	REC/TRK	BYTES PER TRK
27,999	56,664	100.0	1	56,664
18,453	27,998	98.8	2	55,996
13,683	18,452	97.7	3	55,356
10,797	13,682	96.6	4	54,728
8,907	10,796	95.3	5	53,980
7,549	8,906	94.3	6	53,436
6,519	7,548	93.2	7	52,836
5,727	6,518	92.0	8	52,144
5,065	5,726	90.9	9	51,534
4,567	5,064	89.4	10	50,640
4,137	4,566	88.6	11	50,226
3,769	4,136	87.6	12	49,632
3,441	3,768	86.4	13	48,984
3,175	3,440	85.0	14	48,160
2,943	3,174	84.0	15	47,610
2,711	2,942	83.1	16	47,072
2,547	2,710	81.3	17	46,070
2,377	2,546	80.9	18	45,828
2,213	2,376	79.7	19	45,144
2,083	2,212	78.1	20	44,240
1,947	2,082	77.2	21	43,722
1,851	1,946	75.6	22	42,812
1,749	1,850	75.1	23	42,550
1,647	1,748	74.0	24	41,952
1,551	1,646	72.6	25	41,150
1,483	1,550	71.1	26	40,300
1,387	1,482	70.6	27	40,014
1,319	1,386	68.5	28	38,808
1,251	1,318	67.5	29	38,222
1,183	1,250	66.2	30	37,500
1,155	1,182	64.7	31	36,642
1,087	1,154	65.2	32	36,928

MIN RECSZ	MAX RECSZ	PCT USED	REC/TRK	BYTES PER TRK
1,019	1,086	63.2	33	35,838
985	1,018	61.1	34	34,612
951	984	60.8	35	34,440
889	950	60.4	36	34,200
855	888	58.0	37	32,856
821	854	57.3	38	32,452
787	820	56.4	39	31,980
753	786	55.5	40	31,440
719	752	54.4	41	30,832
691	718	53.2	42	30,156
657	690	52.4	43	29,670
623	656	50.9	44	28,864
589	622	49.4	45	27,990
555	588	47.7	46	27,048
521	554	46.9	48	26,592
487	520	45.0	49	25,480
459	486	42.9	50	24,300
425	458	42.0	52	23,816
391	424	40.4	54	22,896
357	390	37.9	55	21,450
323	356	35.8	57	20,292
289	322	33.5	59	18,998
255	288	31.0	61	17,568
227	254	28.7	64	16,256
193	226	26.3	66	14,916
159	192	23.4	69	13,248
125	158	20.1	72	11,376
91	124	16.4	75	9,300
57	90	12.4	78	7,020
23	56	8.1	82	4,592
1	22	3.3	86	1,892

DATASET LIMITS
NON-EXTENDED FORMAT

DS TYPE	EXTENTS /VOL	MAX VOLS	MAX STRIPES	SIZE LIMIT
PS	16	59	0	65K tracks unless DSNTYPE= LARGE
DA	16	59	0	255 extents
PDS	16	1	0	65K tracks
PDSE	123	1	0	522,236 members 15,728,639 records/member
HFS	123	1	0	2GB
VSAM	123	59	0	4GB, 255 extents/component
VIO	1	1	0	65K trks, or 2000GB/ VIOMAXSIZE if SMS
Tape	n/a	255		Fileseq=65535 (9999 if LABEL= AL)

DATASET LIMITS
EXTENDED FORMAT

DS TYPE	EXTENTS /VOL	MAX VOLS	MAX STRIPES	SIZE LIMIT
Single-striped PS	123	59	1	7257 extents
Multi-striped PS	123	59	59	4GB blocks 7257 extents
VSAM striped	123	59	16	255 extents/stripe
VSAM ECR	123	59	16	7257 extents
VSAM-EA	123	59	16	128TB

VSAM stripes may extend to additional volumes.
EA = Extended Addressability attribute of SMS Data Class
ECR = Extent Constraint Relief attribute of SMS Data Class
zFS (z/OS Unix) files are VSAM linear datasets

DATASET LIMITS
VSAM

DS TYPE	EXTENTS /COMP	MAX STRIPES	EXTENTS /STRIPE	EXTENTS /VOL	MAX EXTENTS	MAX VOLS/ COMP	SIZE LIMIT
non-SMS	255	n/a	n/a	123	255	59	4GB
SMS	255	n/a	n/a	123	255	59	4GB
SMS, EA	255	n/a	n/a	123	255	59	128TB
SMS, striped	255	16	123	123	4080	59	4GB
SMS, striped, EA	255	16	123	123	4080	59	128TB
SMS, ECR	Unlimited	16	123	123	7257	59	4GB
SMS, ECR,EA	Unlimited	16	123	123	7257	59	128TB

DFSMSDSS INFORMATION
LOGICAL DUMP

REQUIRED PARAMETERS

```
DUMp DATAset(filter) | FILterdd(ddn)
       OUTDDname(DDN)
       CLOUD(name) CONTAINER(name)
       OBJECTPREFIX(pfx)
       CLOUDCREDENTIALS(ccr)/CDACREDSTORE
```

OPTIONAL PARAMETERS

```
ADMINistrator ALLData(dsn | *) ALLExcp
CANcelerror CHECKvtoc CICSVRBACKUP COMPRESS/HWCOMPRESS
CONCurrent PREFERRED/ANYPREF/(CP | VP |
REQUIRED | ANYREQ | CR | VR | NO | STD)
DEBUG(options)
DELete DYNALloc FCWITHDRAW FORCECP(days)
ICOUNT(nn)
INCAT(catname) ONLYINCAT
KEYPASSWORD(pw) IOCOUNT(n) ENCRTYPE(CLRAES128|CLRTDES)
LOGINDDname(ddn) LOGINDYnam(volser,<unit>)
NEWNAMEUNCONDITIONAL(on,nn)
NOTIFYCONCurrent
OPTimize(1|2|3|4) PASsword(ddn|dsn/pswd)
PROCESS(SYS1) PURge
READIOPacing(nnn) RESEt
RSA(label) ENCRYPT(CLRAES128|CLRTDES|ENCTDES)
SELECTMulti(ALL | ANY | FIRST)
SHAre SPHERE STORGRP(grpname)
TOLerate(IOEror, ENQFailure)
UNCATalog VALIDATE | NOVALIDATE
WAIT(nsecs,ntries)
ZCOMPRESS(NONE/PREF/REQ)
```

DFSMSDSS INFORMATION
LOGICAL RESTORE

REQUIRED PARAMETERS

```
RESTore DATASet(filter) | FILTerdd(ddn)
        INDDname(ddn)
        CLOUD(name) CONTAINER(name)
        OBJECTPREFIX(pfx)
        CLOUDCREDENTIALS(ccr)
        CDACREDSTORE
```

OPTIONAL PARAMETERS

```
ADMINistrator AUTORELBlockaddress
BYPASSACS(dsn) BCSRECOVER(LOCK | SUSPEND)
CANcelerror
CATalog | RECATalog(newcatname | *)|
DELETECATALOGENTRY
DYNALloc DEBUG(SMSMSG/CLMSG(opts))FORce
FORCECP(days)
FREESPACE (ci%,ca%) IMPORT MAKEMULTI
KEYPASSWORD(pwd)
MENtity(modeldsn) MVOLser(volser)
MGMTCLAS(mcname)| NULLMGMTCLAS
NOPACKing(dsn)
OUTDDname(ddn) | OUTDYnam(volser,unit)
PERCENTUtilized(n) PASsword(ddn|dsn/pswd)
PROCESS(UNDEFinedsorg) REBLock(dsn)
RELBlockaddress(dsn)
RENAME/RENAMEUnconditional(prefix)
                ((oldname,newname))
                ((prefix,(oldname,newname))
REPLACE REPLACEUnconditional SHAre SPHERE
RSA(label)
STORCLAS(scname) | NULLSTORCLAS
TGTAlloc( BLK | CYL | TRK | SOURCE)
TGTGDS(DEFERRED | ACTIVE | ROLLEDOFF | SOURCE)
TOLerate(ENQFailure) TTRAddress(dsn)
VOLcount(* | SRC | N(nn) | ANY)
WAIT(nsecs,ntries) WRItecheck
```

DFSMSDSS INFORMATION
FILTERING

INCLUDE(absolute path) WORKINGDIRECTORY(directory)
INClude(dsnmask) EXClude(dsnmask)
BY((criteria,op,value),(criteria,op,value)…)

BY CRITERIA	OPERATORS	POSSIBLE VALUES
ALLOC	EQ, NE	CYL|TRK|BLK|ABSTR|MOV
CATLG	EQ	YES | NO
CREDT, REFDT, EXPDT	LT, GT, EQ, NE, GE, LE	Yyyyddd|*,<n,-n>|NEVER
DSCHA	EQ, NE	YES | NO
DSORG	EQ, NE	SAM|PAM|PDS|PDSE|HFS| BDAM|ISAM|VSAM|zFS|EXCP
DATACLAS, MGMTCLAS, STORCLAS	EQ, NE	Class Name
EXTNT, FSIZE	LT, GT, EQ, NE, GE, LE	0-9999999
MULTI	EQ	YES | NO

*Wildcard Characters: %, *, **, or GDG generation number*

FDRABR INFORMATION
FULL OR INCREMENTAL BACKUP

REQUIRED PARAMETERS

```
TYPE=FDR|ABR|DSF|AUTO
DUMP| SIM| SNAP | SPLIT |FCOPY
      CONSNAP | CONSPLIT |CONFCOPY
      CONPSNAP | CONPSPLIT |CONFCOPY
```

OPTIONAL PARAMETERS

```
AUTOUPD=YES|NO
BCV=(USE,RET)
BUFNO=MAX|nn
COMPRESS=ALL|COPY1|COPY2
COPY1=COPY2
DATA=ALL|USED
DATEP=NONE
DSNENQ=NONE|TEST|USE|HAVE
EMSG=OK
ENQ=OFF|ON|RESERVE
ENQERR=NO
ENQERR=BYPASS|PROCESS
FCOPY=(USE,<REL> | INCR)
FORMAT=NEW|SPLIT
HFS=QUIESCE
ICFCORE=nnnnnn
MAXAUTO=nnn
MAXCARDS=nnnn
MAXDD=nnnn
MAXERR=nnnn
MAXFILE=nnnn
ONLINE
ONLVOL
PPRC=(USE,RET)
PRINT=DSN|ABR|RPT
RETPD=dddd
RETPD2=dddd
RTC=YES|NO
SELTERR=NO|YES
SMSCONSTRUCT=YES|NO
SMSMANAGE=NO|YES
SMSPROT=NONE
SNAP=(USE,<REL> | USE,<RET>)
UPDATEFLAG=NOCHANGE
VERIFYVOLSER=YES|NO
VOLSORT=YES|NO
ZFS=QUIESCE
```

FDRABR INFORMATION
DATASET RESTORE FROM BACKUP

REQUIRED PARAMETERS

```
RESTORE | SIMREST TYPE=ABR
```

OPTIONAL PARAMETERS

```
BLKF=nn ,BYPASSACS ,BYPASSSMS
CATIFALLOC ,COPY=n ,DATA=ALL
DSNENQ=NONE|TEST|USE|HAVE
DYNTAPE | DYNTAPE2 ,EMSG=OK FCOPY=FRR
ICFCAT=ORIGINAL|STEPCAT|ALIAS
MAXCARDS=nn
NOCAT ,RECAT ,OPERATOR
PRESTAGE ,RLSE ,%FREE=nn SELTERR=NO|YES
SMSGDG=DEFERRED|ACTIVE|ROLLEDOFF|INPUT VRECAT
```

FDRABR INFORMATION
SELECT STATEMENT RESTORE FROM BACKUP

REQUIRED PARAMETERS

```
SELECT | EXCLUDE DSN=filter DD=ddname
                 CATDSN=filter ALLDSN
```

OPTIONAL PARAMETERS

```
BLKF=nn ,CATALOG=catname ,MCATALOG=catname
CATLIMITGDG=n ,COPY=n ,CYCLE=nn
CATNEWN=newname
DATA=ALL|NONE ,DATACLAS=dataclass ,NULLDATACLAS
MGMTCLAS=managementclass ,NULLMGMTCLAS
STORCLAS=storageclass ,NULLSTORCLAS DSNENQ=NONE
,GEN=nnnn
NEWNAME=newdsname ,NEWGROUP=newgroup
NEWINDEX=newindex
CATNEWN=newname, NEWDD=ddname
NOCAT ,RECAT ,NOTIFY=userid
NVOL=(vvvvvv,vvvvvv,...) ,OLDBACKUP=nn
PRESTAGE ,PRTALIAS ,RLSE ,%FREE=nn ,TAPEDD=x
TRK=nnnnn ,CYL=nnnnn ,VOL=vvvvvv ,VRECAT
```

DFSMSHSM INFORMATION
DELETE MIGRATED DATASET WITH MISSING/DAMAGED MCD RECORD

```
CONNECT(userid) GROUP(ARCCATGP) AUTHORITY(USE)
LOGON userid / password GROUP(ARCCATGP)
DELETE dsname NOSCRATCH
```

DFSMSHSM INFORMATION
ADDVOL COMMAND

```
ADDVOL volser UNIT(unit) BACKUP (bkup-parms)
                         DUMP (dump-parms)
                         MIGRATION (mig-parms)
                         PRIMARY (prim-parms)
```

Options for BACKUP Volumes
```
DAILY(n) | SPILL THRESHOLD(nnn)
```

Options for DUMP Volumes
```
DUMPCLASS(class) DENSITY(2|3|4)
```

Options for MIGRATION Volumes
```
AUTODUMP(classes) | NOAUTODUMP
DRAIN             | NODRAIN
ML1               | ML2
OVERFLOW          | NOOVERFLOW
SDSP              | NOSDSP THRESHOLD(nnn)
```

Options for PRIMARY Volumes
```
AUTOBACKUP       | NOAUTOBACKUP
AUTODUMP(class)  | NOAUTODUMP
AUTOMIGRATION    | NOAUTOMIGRATION
AUTORECALL       | NOAUTORECALL
BACKUPDEVICECATEGORY(TAPE|DASD|NONE)
MIGRATE(days)    | DELETEBYAGE(days) |
DELETEIFBACKEDUP(days)
THRESHOLD(hi low)
TRACKMANAGEDTHRESHOLD(hi low)
```

DFSMSHSM INFORMATION
QUERY COMMAND

```
QUERY
ABARS
ACTIVE<(tcbaddr)>
ARPOOL(aggregate) AUTOPROGRESS
BACKUP(ALL | DAILY(day) | SPILL | UNASSIGNED
CDSVERSIONBACKUP
COMMONQUEUE(RECALL / DUMP / RECOVER)
FILENAME(fname)
CONTROLDATASETS
COPYPOOL (cpname)
CSALIMITS
DATASETNAME(dsname)
REQUEST(reqnum)
USER(userid)
IMAGE
ML2
POOL
RETAIN
SECURITY
SETSYS
SPACE(volser)
STARTUP
STATISTICS
TRAPS
VOLUMEPOOL
WAITING
```

DFSMSHSM INFORMATION
TSO COMMANDS

Recall a Migrated Dataset

```
HRECALL(dsn) WAIT|NOWAIT EXTENDRC
 VOLUME(volser) UNIT(type)
 DAOPTION(SAMETRK|RELTRK|RELBLK)
```

Recover a Dataset From Backup

```
HRECOVER(dsn/path) GENERATION(nnnn) NEWNAME(newn)
 REPLACE WAIT|NOWAIT EXTENDRC
 DATE(date) TIME(time) VERSION(nnnn)
 FROMVOLUME(vol) TOVOLUME(vol) UNIT(type
 DAOPTION(SAMETRK|RELTRK|RELBLK)
 EXCLUDE(mask)
 NEWDIR(path)
 RECURSE(CROSSMOUNTS / NOCROSSMOUNTS)
```

List BCDS and MCDS Information

```
HLIST BVOL(volser)|PVOL|MVOL|ML1|ML2<(DASD|TAPE)>
   VOLUME(volser) BCDS|MCDS|BOTH
HLIST DSNAME(dsn)|LEVEL(qual)|
FILENAME(fn)|FILELEVEL(path) <RECURSE>
      BCDS|MCDS|BOTH
      SUMMARY
      INCLUDEPRIMARY
      SELECT(AGE(min,max))
            (ML1|ML2)
            (VOLUME(volser))
            RETAINDAYS
            ACTIVE
      SDSP|NOSDSP
      VSAM
HLIST USER(userid)
HLIST parms TERMINAL|OUTDATASET(dsn)|SYSOUT(class)
```

Delete Backup Versions

```
HBDELETE (dsn/path, dsn/path,...) ALL | DATE(date)
 TIME(time)| VERSIONS(nnn,nnn...) FROMVOLUME(vol)
```

Delete Migrated Datasets

```
HDELETE (dsn, dsn...) PURGE WAIT|NOWAIT EXTENDRC
```

Issue Arbitrary DFSMShsm Commands

```
HSENDCMD WAIT|NOWAIT command
```

The issuer of HSENDCMD must be a DFSMShsm-authorized user for any commands other than ALTERDS, BDELETE, and QUERY

USEFUL CONSOLE COMMANDS

Display SMS Subsystem Information

```
D SMS, ACTIVE
,CACHE
,CFCACHE(structurename|*)
,CFLS(ALL|lockstructurename)
,CFVOL(volid)
,CICSVR[,{ALL|LOGSTREAMS({LogstreamName|ALL})|RCDS}
,DRIVE(name|ALL) ,STATUS|DETAIL
,DSNAME(dsn)<,WTOR>
,JOB(jobname)<,WTOR>
,{LIBRARY|LIB}(name|ALL)<,STATUS,LISTDRI,DETAIL>
,LOG(logstreamid|ALL)<,WTOR>
,MONDS(specmask|*)
,OAM
,OPTIONS
,OSMC<,TASK(name)>
,PDSE|PDSE1 ,LATCH(laddr) ,DETAILED|SUMMARY
  ,MODULE(modname) ,VSTOR
  ,HSPSTATS<,DSN(dsname) |STORCLAS(sc) |UNMANAGED
  ,HPSTATS, SUMMARY | MAXDSNS(nnn)
  ,CONNECTIONS,DSN(dsname) <,VOL(volser)>
,SEP
,SHCDS
,SHUNTED,<SPHERE(sphere)|UR(urid|ALL)><,WTOR>
,SMSVSAM<,ALL>
,SMSVSAM,QUIESCE
,STORGRP(storgrp|ALL)<,LISTVOL|,DETAIL>
,TRACE
,TRANVSAM<,ALL,ALLLOGS,WTOR>
,URID(urid|ALL)<,WTOR>
,VOLUME(volume)
```

Display Subsystem Information

```
D OPDATA,PREFIX-display subsytem command prefixes
D SSI, LIST, ALL<, SUB=sname>-display subsytems info
```

Automatically Allocate System Dump Datasets

```
DUMPDS NAME=name pattern
 (default=SYS1.DUMP.D&YYMMDD..T&HHMMSS..
  &SYSNAME..S&SEQ.)
DUMPDS ALLOC=ACTIVE | INACTIVE
DUMPDS ADD,SMS=((S=storclas,M=mgmtclas,D=dataclas))
       or
DUMPDS ADD,VOL=(volser list)
       or
DUMPDS ADD,DSN=(nn,nn,nn-nn...) (for non-auto alloc)
```

Activate an SMS Configuration

```
SETSMS SAVEACDS(backup.acds)
SETSMS SCDS(scds) <ACDS(acds)>
```

The current ACDS should be saved to a backup ACDS before activating a new configuration. Specifying the ACDS operand will cause the named ACDS to be overlaid with the SCDS contents.

Copy an SCDS to an ACDS without Activation

```
SETSMS COPYSCDS(scdsname,acdsname)
Create an SCDS from the Active Configuration
SETSMS SAVESCDS(scdsname)
```

USEFUL CONSOLE COMMANDS (CONT.)

Display / Alter Volume and Storgrp Status

```
D SMS,VOL(vvvvvv)
D SMS,SG(storgrp),[LISTVOL]
VARY SMS,SG(storgrp) ,ENABLE
          VOL(volser),QUIESCE[,NEW]
                      ,DISABLE[,NEW]
```

Display Linklist, LPA, APF Libraries, Dynamic Exits

```
D PROG,LNKLST
D PROG,LPA[,MODNAME=modname]
D PROG,APF
D PROG,EXIT,EXITNAME=exitname
   [,MODNAME=modname][,DIAG]
```

Add Dataset to Linklist

```
SETPROG LNKLST,DEFINE,NAME=listname,COPYFROM=CURRENT
SETPROG LNKLST,ADD,name=listname,DSNAME=dsn,
   ATTOP|ATBOTTOM|AFTER=dsn
SETPROG LNKLST,ACTIVATE,name=listname
```

Free a Linklisted Dataset

```
STOP LLA
SETPROG LNKLST,UNALLOCATE
MODIFY CATALOG,UNALLOCATE
```

APF-Authorize a Load Library

```
SETPROG APF,ADD,DSNAME=dsn,SMS | VOL=volser
```

Display Allocation Defaults

```
D ALLOC,OPTIONS
```

Display Device Support Settings

```
D DEVSUP
```

Display DIAGxx Settings

```
D DIAG
```

Display / Change TSO Options

```
D IKJTSO
SET IKJTSO=xx
```

Display SMF Dataset Names

```
D SMF,S
```

Display SMF Options

```
D SMF,O
```

Display Device Information

```
DEVSERV PATHS,devnum,nn,<ONLINE | OFFLINE>
        SMS
DEVSERV QDASD,devnum,<filters and options>
        QTAPE
DEVSERV QDASD |QTAPE,? displays syntax details
DEVSERV QPAVS,devnum,<VOLUME|UCB|UNBOX>
```

Display System Configuration Info

```
D PARMLIB
D IPLINFO
D M=CPU
  M=DEVICE(devnum)
  M=CHP(channel paths)
```

SETSMS
SUBSYSTEM OPTIONS

Configuration Parameters

```
ACDS(dsname)
BYPASS_CLUSTER_PREFERENCING(YES | NO)
RLSABABOVETHEBARMAXPOOLSIZE(values)
RLSFIXEDPOOLSIZE(values)
TVSAMCOM(min,max)
USER_ACSVAR(val1,val2,val3)
AKP({nnn[,nnn[...,nnn]] |1000})
BREAKPOINTVALUE (0-65520)
CA_RECLAIM(NONE|{DATACLAS|DATACLASS})
COPYSCDS(scds_dsn, acds_dsn)
SCDS(dsname)
SAVEACDS(dsname)
COMMDS(dsname)
FAST_VOLSEL(ON|OFF)
HONOR_DSNTYPE_PDSE(YES|NO)
MAXLOCKS({max|0},{incr|0})
PDSE1_BUFFER_BEYOND_CLOSE (YES | NO )
PDSE1_DIRECTORY_STORAGE (nnn)
PS_EXT_VERSION(1|2)
PDSE1_HSP_SIZE(nnnn)
PDSE_SYSEVENT_DONTSWAP (YES | NO)
QTIMEOUT({nnn|300})
RLS_MAXCFFEATURELEVEL({A|Z})
RLS_MAX_POOL_SIZE(nnn)
RLSINIT({NO|YES})
RLSTMOUT({nnn|0})
SAM_USE_HPF({YES|NO})
SUPPRESS_DRMSGS({YES|NO})
SUPPRESS_SMSMSG({YES|NO,IGD17054I,IGD17227I,
   IGD17395I})
```

Interval Parameters

```
INTERVAL(nnn)
CF_TIME(nnn)
DINTERVAL(nnn)
DSSTIMEOUT(nnnn)
CACHETIME(nnnnn)
BMFTIME(nnnnn)
DEADLOCK_DETECTION(iiii,kkkk)
LRUCYCLES(cycles)
LRUTIME(seconds)
SMF_TIME(YES or NO)
```

CICSVR Option Parameters

```
CICSVR_INIT(YES or NO)
CICSVR_DSNAME_PREFIX(user_prefix)
CICSVR_RCDS_PREFIX(cicsvr_rcds_prefix)
CICSVR_ZZVALUE_PARM(zzvalue_string)
```

SETSMS
SUBSYSTEM OPTIONS (CONT.)

Trace and VOLSELMSG Option Parameters

```
USE_MOST_FREE_SPACE(YES | NO)
TRACE (ON or OFF)
TYPE(ERROR|ALL[(TRACE|T|VOLSELMSG|V)
 [,ALL|ERROR(TRACE|T|VOLSELMSG|V)]])
VOLSELMSG(ON|OFF,0|nnnnn|ALL)
JOBNAME(jobname|*[(TRACE|T|VOLSELMSG|V)
 [,jobname|*(TRACE|T|VOLSELMSG|V)]])
ASID(asid|*[(TRACE|T|VOLSELMSG|V)
 [,asid|*(TRACE|T|VOLSELMSG|V)]])
STEPNAME(stepname|*)
SELECT(option[,option]...)
DESELECT(option[,option]...)
```

SMS AND OAM/LCS CONSOLE COMMANDS
FOR SMS-MANAGED TAPE AND MANUAL TAPE LIBRARIES (MTL)

```
DISPLAY SMS,OAM     - display OAM status
DISPLAY SMS,LIBRARY
 (ALL),DETAIL       - display library status
                      (ALL or selected libraries)
VARY SMS,LIBRARY
 (libname),ONLINE   - vary a library online
VARY SMS,LIBRARY
 (libname),OFFLINE - vary a library online
LIBRARY ENTER,volser,
  libname,MEDIAn    - enter a tape volume
                      into a library
                      (MEDIAtype optional
                      if a default data
                      class is specified in
                      library definition)
LIBRARY EJECT,volser,
           PURGE    - eject a volume (no
                      physical movement
                      from an MTL)
            KEEP
        LOCATION
LIBRARY SETCL,
 deviceno, MEDIAn - set default media type
                    for cartridge loader
             ANY    (ANY applies only to MTL)
LIBRARY DISPDRV,
         deviceno - display tape drive
                    status libraryname
DISPLAY SMS,VOL(volser)- display tape
  volume status
```

(It is also possible to display status of all the volumes in a tape library via ISMF option 2 Volume List).

RACF
INFORMATION

Allow Access to a RACF Resource
```
PERMIT profile-name ACCESS(access-type)
  CLASS(class-name) ID(userid
```

Find all DSNs for a Profile
```
LD DA('profile') ALL DSNS
```

Find all Profiles for a User
```
LD ID(userid)
```

List Profile Information (even if Generic exists)
```
LD DA('dsname') GENERIC
```

List Group Information
```
LG group-name DF
```

List User attributes
```
LU (user1,user2,user3) DFP TSO
```

Change a User Password
```
PW PASSWORD(current new) USER(userid)
```

Reset a User Password to Default Group
```
PW USER(userid)
```

Delete Access to a Tape Volume
```
PERMIT tapevolser CLASS(TAPEVOL)
USER(userid) DELETE
```

Add a Generic Profile
```
ADDSD 'hlq.qual2.*' UACC(access-type)
```

Restrict use of a Storage Class
```
SETROPTS CLASSACT(STORCLAS) RACLIST(STORCLAS)
RDEFINE STORCLASS storclas-name UACC(NONE)
PERMIT storclas-name CLASS(STORCLAS) -ID(userID)
  ACCESS(READ)
SETROPTS REFRESH RACLIST(STORCLAS)
```

RACF
RESOURCES

CLASS	RESOURCE NAME
TSOPROC	PARMLIB
FIELD	RESOWNER (dataset profiles)
FIELD	DEF_DATACLAS DEF_STORCLAS DEF_MGMTCLAS DATAAPL (USER/GRP PROFILES)
STORCLAS	Class name
MGMTCLAS	Class name

VSAM/IDCAMS
INFORMATION

Delete Orphan VVDS Record

```
//IDCAMS EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//DD1 DD UNIT=SYSDA,VOL=SER=vvvvvv,DISP=SHR
//SYSIN DD *
DELETE component.name VVR  -
   FILE(DD1)               -
   CAT(cat.name.in.vvr)
```

If a non-VSAM record is to be removed, the 'NVR' parameter should be used instead of 'VVR'

Recatalog a VSAM Cluster that has become Uncatalogued

```
//GO EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DEFINE CL(NAME(cluster-name) RECATALOG type -
  VOL(volser) )
```

Note: the type of dataset (indexed, relative record, linear, etc.) and the volume on which the dataset resides must be specified in the DEFINE.

Delete Catalog Entry

```
//GO EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DELETE CL cluster-name NOSCRATCH
```

Scan a VVDS for Errors

```
//GO EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//VVDS DD DSN=SYS1.VVDS.Vvolser,
//     UNIT=SYSDA,VOL=SER=volser,
//     AMP='AMORG',DISP=SHR
//SYSIN DD *
  DIAGNOSE VVDS INFILE(VVDS)
```

Alter SMS Class Information

```
//EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  ALTER entryname STORCLAS(new-storclas) -
    MGMTCLAS(new-mgmtclas)
```

List Aliases in the Master Catalog

```
//EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  LISTC ALIAS ALL CAT(mastercatname)
```

Print the contents of the VVDS

```
//PRNTVVDS EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=A
//VVDS DD DSN=SYS1.VVDS.Vvolser,
//DISP=SHR, UNIT=SYSDA,
//VOL=SER=volser,AMP=AMORG
//SYSIN DD *
  PRINT INFILE(VVDS)
```

AUTOMATIC CLASS SELECTION
READ-ONLY VARIABLES

VARIABLE NAME	DESCRIPTION	LANGUAGE
&ACCT_JOB	Job acct info	0-142 char
&ACCT_STEP	Step acct info	0-142 char
&ACSENVIR	Environment	RECALL, RECOVER, RENAME, RMMPOOL, RMMVRS, CONVERT, ALLOC, ALLOCTST, STORE, CHANGE, CTRANS, other, SPMGCLTR
&ACSENVIR2	Environment	Same as ACSENVIR plus FLASHCPY
&ALLVOL	Volsers	Volsers or REF=SD/ST/NS
&ANYVOL	Explicit volser	Volser or REF=SD/ST/NS
&APPLIC	RACF applic id	0-8 chars
&BLKSIZE	blocksize	0-2147483647
&DATE	Current Date	YYYYDDD
&DAYOFWEEK	Current Day	SUNDAY,MONDAY, TUESDAY,WEDNESDAY, THURSDAY,FRIDAY, SATURDAY
&DB2SSID	DB2 subsystem id	1-4 chars
&DD	DD name	1-8 chars
&DEF_DATACLAS	RACF resowner DC	0-8 chars
&DEF_MGMTCLAS	RACF resowner MC	0-8 chars
&DEF_STORCLAS	RACF resowner SC	0-8 chars
&DSKEYLBL	Encryption key label	1-64 chars
&DSN	Dataset or cluster name, without relative generation	1-44 chars
&DSN_VERSION	Dataset version	1 or 2
&DSNTYPE	Type of dataset	BASIC, EXC, EXR, HFS, LARGE, LIBRARY, PDS, null
&DSORG	dataset org.	PS, PO, VS, DA, null
&DSOWNER	RACF owner id	0-8 chars
&DSTYPE	Type of dataset	GDS, PERM, TEMP, null
&EATTR	extended attributes	OPT/NO/blank
&EXPDT	Expiration date	YYYYDDD
&FILENUM	File seq no.	1-65535

AUTOMATIC CLASS SELECTION
READ-ONLY VARIABLES (CONT.)

VARIABLE NAME	DESCRIPTION	LANGUAGE
&GROUP	RACF group	0-8 chars
&HLQ	First qual of dsn	1-8 chars
&JOB	Job name	1-8 chars
&LABEL	type of dataset label	NL, AL, SL, NSL, SUL, AUL, BLP, LTM, blank
&LIBNAME	Tape library name	0-8 chars
&LLQ	Last qual of dsn	1-8 chars
&MAXGENS	max PDSE V2 gens	0-2000000000
&MAXSIZE	Max dataset size in KB or MB	0KB - 2147483647KB or 0MB- 2097151MB
&MEMHLQ	Object first qual	0-8 chars
&MEMLLQ	Object last qual	0-8 chars
&MEMN	Object name	0-44 chars
&MEMNQUAL	Object no. quals	0-22
&MSPDEST	Tape mgmt dest	0-44 chars
&MSPARM	Tape mgmt parm	0-256 bytes, with 2 byte length fields
&MSPOLICY	VTS policy name	0-8 chars
&MSPOOL	SMS tape pool	0-8 chars
&NQUAL	No. dsn qual	0-22
&NVOL	Max of vol count, unit, or VOL=	0-2147483647
&PGM	program name	1-8 chars
&RECORG	type of VSAM org	KS, ES, RR, LS, null, FS
&RETPD	retention period	0- 2147483647
&SECLABL	security label	1-8 chars
&SECOND_QTY	secondary alloc	0- 2147483647
&SIZE	primary space in KB or MB	0KB - 2147483647KB or 0MB - 2097151MB
&SPACE_TYPE	secondary space type	TRK, CYL, K, M, U, BLK, blank
&STEP	step name	1-8 chars
&SYSNAME	system name	1-8 chars
&SYSPLEX	sysplex name	1-8 chars
TIME	current time	HH:MM:SS

VARIABLE NAME	DESCRIPTION	LANGUAGE
&UNIT	unit generic	1-8 chars
&USER	userid	1-8 chars
&USER_ACSVAR	user defined variable	1-8 chars, indexed
&XMODE	Type of task	BATCH/TSO/TASK

DATASET
NAMING CONVENTIONS

DB2 Tablespace/Indexspace

hlq.DSNDBx.dbname.spname.y0001.Ammm

```
hlq = catalog alias
x   = C (cluster) or D(data)
dbname =      database name
   DSNDB06 =  DB2 catalog
   DSNDB01 =  DB2 directory
   DSNDB07 =  work database
   DSNDB04 =  default database
spname = tablespace or indexspace name
y = I (standard) or S (shadow) or T (temp)
mmm = dataset no. or partition no.
```

DB2 BSDS / Active Log

hlq.BSDS0n
hlq.LOGCOPYn.DSmmm

```
hlq = catalog alias
n = copy no. (1 or 2)
mm = archive log no. (01-92)
```

DB2 Archive Log / BSDS Backup

hlq.ARCHLOGn.Dyyddd.Thhmmsst.axxxxxx

```
hlq = catalog alias
n = copy no. (1 or 2)
Dyyddd.Thhmmsst = timestamp (2 or 4 digit yr)
A = A (Archive Log) or B (BSDS bkup)
xxxxxxx = file sequence
```

DB2 Image Copy

(sample, may vary by installation)

hlq.wxiyyddd.Thhmmss.spname.Ammm

```
hlq = catalog alias
w = copy type, P (primary) or S (secondary)
x = copy requirement, S(std) or H(critical)
I = copy frequency, D(daily), W(weekly), M(monthly)
yyddd.Thhmmss = date / time
spname = tablespace or indexspace name
mmm = dataset identifier
```

Dynamic Dump Datasets

SYS1.DUMP.D&DATE..T&TIME..&SYSNAME.S&SEQ

Temporary Datasets

SYSyyddd.Thhmmss.RA000.jjobname.Rggnnnnn
SYSyyddd.Thhmmss.RA000.jjobname.tempname.Hgg

```
tempname = &DSNAME specified
gg = 01 or sysplex id
nnnnn = unique no. within a system
```

DFSMSHSM TAPE DATASET NAMING CONVENTION

Backup to original
`prefix.BACKTAPE.DATASET`

Backup to alternate
`prefix.copy.BACKTAPE.DATASET`

Migration to original
`prefix.HMIGTAPE.DATASET`

Migration to alternate
`prefix.COPY.HMIGTAPE.DATASET`

Dump
`prefix.DMP.dumpclass.Vvolser.Dyyddd.Tssmmhh`

Spill
`prefix.BACKTAPE.DATASET`

Recycle Backup to original
`prefix.BACKTAPE.DATASET`

Tape copy (backup)
`prefix.COPY.BACKTAPE.DATASET`

Tape copy (migration)
`prefix.COPY.HMIGTAPE.DATASET`

Recycle Backup to alternate
`prefix.COPY.BACKTAPE.DATASET`

Recycle Migration to original
`prefix.HMIGTAPE.DATASET`

Recycle Migration to Alternate
`prefix.COPY.HMIGTAPE.DATASET`

CDS Backup (DATAMOVER=HSM)
```
UID.BCDS.BACKUP.Vnnnnnnn
UID.MCDS.BACKUP.Vnnnnnnn
UID.OCDS.BACKUP.Vnnnnnnn
UID.JRNL.BACKUP.Vnnnnnnn
```

CDS Backup (DATAMOVER=DSS)
```
UID.BCDS.BACKUP.Dnnnnnnn
UID.MCDS.BACKUP.Dnnnnnnn
UID.OCDS.BACKUP.Dnnnnnnn
UID.JRNL.BACKUP.Dnnnnnnn
```

ABARS Backup - control file
`outputdatasetprefix.C.CccVnnnn`

DFSMSdss data
`outputdatasetprefix.D.CccVnnnn`

Instruction file
`outputdatasetprefix.I.CccVnnnn`

‘other’ Mig and Tape file
`outputdatasetprefix.O.CccVnnnn`

FDRABR TAPE DATASET
NAMING CONVENTION

Incremental and Full Volume Backup

```
FDRABR.Vvolser.Cnggggcc
    n= copy number (1-9)
    gggg=generation number (1-9999)
    cc=cycle number (1-63)
```

Archive Backup

```
FDRABR.Vvolser.bnyydddx
    b=identifier (B,D-J)
    n=copy number (1-2)
    yyddd = Julian date
    x = occurrence number (A-Z, 0-9)
```

Application Backup

```
abrindex.Vvolser.bnyydddx
    abrindex = HLQ of Application A.C.F
    remainder = same as Archive Backup
```

SYS1.PARMLIB
MEMBERS

ADYSETxx	dump suppression
ALLOCxx	allocation system defaults
ANTMIN00	ANTMAIN control parameters
ANTXIN00	XRC services
APPCPMxx	define APPC/MVS configuration
ASCHPMxx	APPC/MVS transaction scheduler
AUTORxx	auto-reply policy specifications
AXRxx	system REXX options
BLSCECT	formatting exits for dump and trace analysis
BLSCUSER	installation customization for dump and trace analysis
BPXPRMxx	z/OS UNIX System Services parameter
CEAPRMxx	common event adapter parameters
CEEPRMxx	runtime option parameters
CLOCKxx	time of day parameters
CNGRPxx	specify console groups
CNLcccxx	time and date format for translated messages
COFDLFxx	hiperbatch parameters

SYS1.PARMLIB
MEMBERS (CONT.)

COFVLFxx	virtual lookaside facility parameters
COMMNDxx	commands automatically issued at initialization
CONFIGxx	standard configuration list
CONSOLxx	console configuration definition
COUPLExx	cross-system coupling facility (XCF parameters)
CSVLLAxx	library lookaside (LLA list)
CTncccxx	component trace parameters
CUNUNIxx	Unicode Services environment
DEVSUPxx	device support options
DFHSSIxx	message-formatting initialization member
DIAGxx	control common storage tracking and GFS trace
EXITxx	allocation installation exit list
EXSPATxx	excessive spin condition actions
FXEPRMxx	Function Registry for z/OS
GRSCNFxx	global resource serialization configuration
GRSMONxx	global resource serialization monitor
GRSRNLxx	global resource serialization resource name lists
GTFPARM	generalized trace facility parameters
GTZPRMxx	Generic Tracker parameters
HZSPRMxx	manage IBM Health Checker for z/OS checks
IDAVDTxx	VSAM Dynamic Trace parameters
IEAABD00	ABDUMP written to a SYSABEND data set
IEAAPFxx	authorized program facility list
IEAAPP00	authorized I/O appendage routines
IEACMD00	IBM-supplied commands
IEADMCxx	DUMP command parmlib

IEADMP00	ABDUMP written to a SYSUDUMP data set
IEADMR00	ABDUMP written to a SYSMDUMP data set
IEAFIXxx	fixed LPA list
IEALPAxx	modified LPA list
IEAOPTxx	OPT parameters
IEAPAKxx	LPA pack list
IEASLPxx	SLIP commands
IEASVCxx	installation-defined SVCs
IEASYMxx	symbol definitions and IEASYSxx members
IEASYSxx	system parameter list
IECIOSxx	I/O related parameters
IEFOPTZxx	Dataset Optimization Config
IEFSSNxx	subsystem definitions
IFAPRDxx	product enablement policy
IFGPSEDI	enhanced data integrity
IGDSMSxx	storage management subsystem definition
IGGCATxx	DFSMS catalog configuration
IKJTSOxx	TSO/E commands and programs
IOEPRMxx	z/OS Distributed File Service z/OS File System parameters
IPCSPRnn	Interactive Problem Control System
IQPPRMxx	PCIE related parameters
IRRPRMxx	RACF Parameters
IVTPRM00	Communication Storage Manager
IXGCNFxx	system logger initialization parameters
IZUPRMxx	ZOSMF Configuration
LNKLSTxx	LNKLST concatenation
LOADxx	system configuration data sets
LPALSTxx	LPA library list

SYS1.PARMLIB
MEMBERS (CONT.)

MMSLSTxx	MVS message service list
MPFLSTxx	message processing facility list
MSGFLDxx	message flood automation parameters
MSTJCLxx	master scheduler JCL
NUCLSTxx	customizing the nucleus region
PFKTABxx	program function key table definition
PROGxx	authorized program list, exits, LNKLST sets and LPA
SCHEDxx	PPT, master trace table, and abend codes for automatic restart
SMFLIMxx	REGION and MEMLIMIT values
SMFPRMxx	system management facilities (SMF parameters)
TSOKEY00	TSO/VTAM time sharing parameters
VATLSTxx	volume attribute list
XCFPOLxx	XCF PR/SM policy

APAR
STATUS CODES

OPEN	APAR has been opened
CLOSED	APAR has been closed (see resolution code)
	Closed APAR has been reopened
INTRAN	APAR documentation is being sent to IBM
	APAR resolution is being tested
REACT	Reactivated after customer test of fix

APAR
RESOLUTION CODES

ADM	Partially closed APAR;admin info; technical info to follow
CAN	Cancelled by submitter
DOC	Documentation error
DUA	Duplicate of resolved APAR closed > 10 days
DUB	Duplicate of resolved APAR closed<=10 days
DUU	Duplicate of unresolved APAR
FIN	Fixed in next release
MCH	Machine / microcode error
PER	Programming error
PRS	Permanent restriction
RET	Returned for additional information
STD	Open Systems Standards deficiency
SUG	Suggestion for enhancement
UR1	Programming error corrected in a release not yet available
UR2	Same as UR1 but for unsupported release
UR3	Error in the earlier release, no error in current release
UR4	Same as UR3 but written against an unsupported release
UR5	Unable to reproduce
USE	User error

PTF
CLOSING CODES

ATL	Canceled while in test
CAN	Cancelled by submitter
COR	Available from distribution
DUP	Duplicate of another PTF
PER	Available on preventive service
REJ	Rejected

ACC/SRS
SAMPLE ALLOCATION AND ERROR-PREVENTION RULES

Enforce System Naming and Space Standards

```
IF &DSNAME = SYSA.**
     &QUAL2 NE 'PROD'
     THEN ISSUE WRITEMSG(BADDSN)
                SET &JCLFAIL = YES

IF &QUAL2 = TEST*
     &SIZE-M GT 100
     &SYSID EQ 'SYSA'
     THEN SET &PSPACE = 200
                SET &SPACE = CYL
                ISSUE WRITEMSG(WARNSPC)

DEFMSG BADDSN 'DATASET &DSNAME NOT VALID
FOR PROD - JOB FAILED'

DEFMSG WARNSPC 'WARNING - TEST DATASETS
LIMITED TO 100MB OR 200 CYLS ON SYSB
```

Control DASD and Tape Allocation and Prevent Space Errors

```
IF &DSNAME = PROD*
     &UNITTYPE = DASD
     THEN SET &DISKPOOL = PRODPOOL

DEFPOOL PRODPOOL ALGORITHM(MAXSPACE)
 REDUCEP(PERCENT(10) LIMIT(10))
 REDUCES(YES PERCENT(10) LIMIT(10))
 ADDVOL(YES MAXVOL(20))

IF &SYSID = SYSA
     &CURDAY NE (SATURDAY, SUNDAY)
     &UNITTYPE = TAPE
     &VOLSER EQ X3????
     THEN SET &TAPEPOOL = TAPEP1

DEFPOOL TAPEP1
 UNITADDR=(1537,1538,1539)
```

Ensure Correct VSAM RLS Logfile Usage

```
DEFRULE RLSRULE
 IF &DSNAME   EQ PROD.RLS.**    /*PROD CLUSTER?    */
    &LOGSTRID NE PROD.RLS.**    /*NON PROD LOGFILE?*/
    THEN ISSUE WRITEMSG(ERRRLS) /*ERROR MESSAGE AND*/
         SET &JCLFAIL = YES     /*FAIL THE FUNCTION*/
           SET &LOGREP = YES
DEFMSG ERRRLS '** INVALID LOGSTREAM NAME
 FOR &DSNAME' USER(STGADM)
```

GENERAL PURPOSE REGISTER
STANDARD 72-BYTE SAVE AREA

BYTE OFFSET (HEX)	CONTENT
0	any data
4	HSA
8	LSA
C	R14
10	R15
14	R0
18	R1
1C	R2
20	R3
24	R4
28	R5
2C	R6
30	R7
34	R8
38	R9
3C	R10
40	R11
44	R12

GENERAL PURPOSE REGISTER
144-BYTE SAVE AREA FOR PROGRAMS STARTING IN AMODE 64

BYTE OFFSET (HEX)	CONTENT
0	Reserved
4	C'FSA'
8	R14
10	R15
18	R0
20	R1
28	R2
30	R3

GENERAL PURPOSE REGISTER
144-BYTE SAVE AREA FOR PROGRAMS STARTING IN AMODE 64 (CONT.)

BYTE OFFSET (HEX)	CONTENT
38	R4
40	R5
48	R6
50	R7
58	R8
60	R9
68	R10
70	R11
78	R12
80	HSA
88	LSA

GENERAL PURPOSE REGISTER
208-BYTE SAVE AREA FOR AMODE 24 OR 31 PROGRAMS CALLING AMODE 64 PROGRAMS

BYTE OFFSET (HEX)	CONTENT
0	Reserved
4	C'FSA'
8	R14
10	R15
18	R0
20	R1
28	R2
30	R3
38	R4
40	R5
48	R6
50	R7

BYTE OFFSET (HEX)	CONTENT
58	R8
60	R9
68	R10
70	R11
78	R12
80	HSA
88	LSA
90	R0 high half
94	R1 high half
98	R2 high half
9C	R3 high half
A0	R4 high half
A4	R5 high half
A8	R6 high half
AC	R7 high half
B0	R8 high half
B4	R9 high half
B8	R10 high half
BC	R11 high half
C0	R12 high half
C4	R13 high half
C8	R14 high half
CC	R15 high half

Other Save Area Formats
Programs that use the linkage stack also supply a save area pointed to by R13:

- *C'F1SA' in the second word of the save area indicates an 18-word save area, with registers saved in the linkage stack*
- *C'F6SA' in the second word of the save area indicates a 36-word save area, with registers saved in the linkage stack*

JULIAN PERPETUAL CALENDAR

NON-LEAP YEARS

DAY	JAN	FEB	MAR	APR	MAY	JUN
1	001	032	060	091	121	152
2	002	033	061	092	122	153
3	003	034	062	093	123	154
4	004	035	063	094	124	155
5	005	036	064	095	125	156
6	006	037	065	096	126	157
7	007	038	066	097	127	158
8	008	039	067	098	128	159
9	009	040	068	099	129	160
10	010	041	069	100	130	161
11	011	042	070	101	131	162
12	012	043	071	102	132	163
13	013	044	072	103	133	164
14	014	045	073	104	134	165
15	015	046	074	105	135	166
16	016	047	075	106	136	167
17	017	048	076	107	137	168
18	018	049	077	108	138	169
19	019	050	078	109	139	170
20	020	051	079	110	140	171
21	021	052	080	111	141	172
22	022	053	081	112	142	173
23	023	054	082	113	143	174
24	024	055	083	114	144	175
25	025	056	084	115	145	176
26	026	057	085	116	146	177
27	027	058	086	117	147	178
28	028	059	087	118	148	179
29	029		088	119	149	180
30	030		089	120	150	181
31	031		090		151	

DAY	JUL	AUG	SEP	OCT	NOV	DEC
1	182	213	244	274	305	335
2	183	214	245	275	306	336
3	184	215	246	276	307	337
4	185	216	247	277	308	338
5	186	217	248	278	309	339
6	187	218	249	279	310	340
7	188	219	250	280	311	341
8	189	220	251	281	312	342
9	190	221	252	282	313	343
10	191	222	253	283	314	344
11	192	223	254	284	315	345
12	193	224	255	285	316	346
13	194	225	256	286	317	347
14	195	226	257	287	318	348
15	196	227	258	288	319	349
16	197	228	259	289	320	350
17	198	229	260	290	321	351
18	199	230	261	291	322	352
19	200	231	262	292	323	353
20	201	232	263	293	324	354
21	202	233	264	294	325	355
22	203	234	265	295	326	356
23	204	235	266	296	327	357
24	205	236	267	297	328	358
25	206	237	268	298	329	359
26	207	238	269	299	330	360
27	208	239	270	300	331	361
28	209	240	271	301	332	362
29	210	241	272	302	333	363
30	211	242	273	303	334	364
31	212	243		304		365

JULIAN PERPETUAL CALENDAR
LEAP YEARS

DAY	JAN	FEB	MAR	APR	MAY	JUN
1	001	032	061	092	122	153
2	002	033	062	093	123	154
3	003	034	063	094	124	155
4	004	035	064	095	125	156
5	005	036	065	096	126	157
6	006	037	066	097	127	158
7	007	038	067	098	128	159
8	008	039	068	099	129	160
9	009	040	069	100	130	161
10	010	041	070	101	131	162
11	011	042	071	102	132	163
12	012	043	072	103	133	164
13	013	044	073	104	134	165
14	014	045	074	105	135	166
15	015	046	075	106	136	167
16	016	047	076	107	137	168
17	017	048	077	108	138	169
18	018	049	078	109	139	170
19	019	050	079	110	140	171
20	020	051	080	111	141	172
21	021	052	081	112	142	173
22	022	053	082	113	143	174
23	023	054	083	114	144	175
24	024	055	084	115	145	176
25	025	056	085	116	146	177
26	026	057	086	117	147	178
27	027	058	087	118	148	179
28	028	059	088	119	149	180
29	029	060	089	120	150	181
30	030		090	121	151	182
31	031		091		152	

DAY	JUL	AUG	SEP	OCT	NOV	DEC
1	183	214	245	275	306	336
2	184	215	246	276	307	337
3	185	216	247	277	308	338
4	186	217	248	278	309	339
5	187	218	249	279	310	340
6	188	219	250	280	311	341
7	189	220	251	281	312	342
8	190	221	252	282	313	343
9	191	222	253	283	314	344
10	192	223	254	284	315	345
11	193	224	255	285	316	346
12	194	225	256	286	317	347
13	195	226	257	287	318	348
14	196	227	258	288	319	349
15	197	228	259	289	320	350
16	198	229	260	290	321	351
17	199	230	261	291	322	352
18	200	231	262	292	323	353
19	201	232	263	293	324	354
20	202	233	264	294	325	355
21	203	234	265	295	326	356
22	204	235	266	296	327	357
23	205	236	267	297	328	358
24	206	237	268	298	329	359
25	207	238	269	299	330	360
26	208	239	270	300	331	361
27	209	240	271	301	332	362
28	210	241	272	302	333	363
29	211	242	273	303	334	364
30	212	243	274	304	335	365
31	213	244		305		366

EBCDIC-TO-HEX CHARACTER CONVERSION CHART

	1	2	3	4	5	6	7	8	9
C	A	B	C	D	E	F	G	H	I
D	J	K	L	M	N	O	P	Q	R
E		S	T	U	V	W	X	Y	Z

EBCDIC-TO-HEX LOWERCASE CONVERSION CHART

	1	2	3	4	5	6	7	8	9
8	a	b	c	d	e	f	g	h	i
9	j	k	l	m	n	o	p	q	r
A		s	t	u	v	w	x	y	z

EBCDIC-TO-HEX SPECIAL CONVERSION CHART

	0	1	A	B	C	D	E	F
4	blank		¢ (cent sign)	period (.)	< (less than)	left paren (	plus sign (+)	| (vertical bar)
5	ampersand (&)		! exclamation	dollar sign ($)	asterisk (*)	right paren)	; (semicolon)	^ (NOT sign)
6	dash (-)	slash (/)	¦ (split vertical bar)	comma (,)	underscore (_)			? (question mark)
7			: (colon)	hash sign (#)	at sign (@)	quote (')	equal sign (=)	" (double quote)

Values x'7B' (#), x'7C' (@), and x'5B' ($) are EBCDIC 'national' characters and may differ in various countries.

NOTES

NOTES

IN THE END REMEMBER...

OVER X'1E'* YEARS AGO WE WERE THE FIRST IN STORAGE MANAGEMENT SOLUTIONS AND TODAY WE ARE STILL THE BEST.

*30 (decimal)

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