

PDSUR --- Partitioned Data Set Unload/Reload Utility Program

This documentation appears to be directly from Gene Czarcinski and appears to date from 1973. It is still mostly applicable and relevant however. Please use it.

Developed by --

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Purpose --

'PDSUR' is a data set utility program designed to create backup copies of partitioned data sets (unload) or to restore backup copies to disk (reload). It is designed to be compatible with the IBM system utility 'IEHMOVE'. That is, 'PDSUR' uses the same unloaded format as 'IEHMOVE'. Thus, partitioned data sets which have been unloaded by 'PDSUR' can be reloaded by 'IEHMOVE' (or visa versa). 'PDSUR' has been designed as a data set utility rather than a system utility and thus requires that disk data sets be allocated through jcl.

History --

The development of 'PDSUR' was prompted by some of the operating inefficiencies and problems of IBM'S 'IEHMOVE'. 'PDSUR' utilizes main storage (core) for all tables and workareas rather than disk as 'IEHMOVE' does. Thus, the number of I/O operations required for unloading is less for 'PDSUR' as compared to 'IEHMOVE'. For reloading, 'PDSUR' and 'IEHMOVE' required about the same I/O time. However, 'PDSUR' does not need to know the specific volume serial number for reloading as 'IEHMOVE' does (it can be specified through JCL or the operating system can assign a specific volume).

Features and incompatibilities --

As compared to 'IEHMOVE', 'PDSUR' has a number of differences in its design and operation. Major features and differences are listed below:

- 'PDSUR' uses main (core) storage for tables and work areas
- the default BLKSIZE for unload I/O is 800 (for labeled tape, unlabeled tape or sequential disk)
- space for disk data sets must be allocated through JCL ... PDSUR does not dynamically allocate space as IEHMOVE does
- 'PDSUR' only handles loading and unloading patitioned data sets
- 'PDSUR' will handle unloaded data set blksize larger than 800 bytes for both unload and reload (IEHMOVE will not)
- since 'PDSUR' uses QSAM for unloaded-PDS I/O operations, 'EROPT' can be used to accept I/O errors and attempt data recovery from a damaged tape.
- for all practical purposes, all I/O operations performed by 'PDSUR' are device independent. 'PDSUR' allows the unloaded data set to reside on disk, tape or any other device supporting sequential access.
- 'PDSUR' allows specification (selection or exclusion) of members on both unloading and reloading.
- for fixed length records only (RECFM=F/FB), 'PDSUR' allows reblocking on reload. Thus, a PDS which was DCB=(RECFM=F,LRECL=80,BLKSIZE=80) can be reloaded with DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200). This also allows reloading a pds which was on a 2314 with BLKSIZE=7280 to be reloaded to a 2321 with BLKSIZE=2000.

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- for all RECFM except F/FB, 'PDSUR' will take the largest of: the old BLKSIZE (TODD=), the BLKSIZE specified in the JCL, or the BLKSIZE specified in the unloaded (FROMDD=) data set.
- the unloaded data set must be a sequential data set. It may be a member of another PDS (for what purpose I have no idea). The unloaded data set will normally be on tape.

(Forty years later, we routinely include entire PDS'es as members of other PDS'es using the XMIT-format, which did not exist in 1973. But IEHMOVE format will also do quite nicely for this packaging purpose, especially when we have the convenience of PDSUR to restore the PDS from the IEHMOVE-format PDS member, and its blocksize does not have to be 800.

Sam Golob, Aug2016)

- a LIST function has been incorporated to list the contents (member names) of an unloaded file.

Access Methods Used --

For SYSIN, SYSPRINT and all unloaded data set I/O: QSAM LOCATE mode for fixed length records is used.

For all PDS I/O: BPAM is used.

For all file 'SYSIN' I/O, the default BLKSIZE used is 80.

For all file 'SYSPRINT' I/O, the default BLKSIZE is 3509 (half track blocking for a 2314).

Control Cards (entered via the 'SYSIN' file) --

- all control specification must be contained on the first 72 columns of an 80 byte card image (continuation cards are not handled).
- each control card must consist of two fields: command and operand.
- the command field may or may not start in column 1 of the card (blanks may proceed the command and are ignored).
- one or more blanks (max of 16) must separate the command and operand fields
- operands in the operand field must be separated by commas. Operand scanning is terminated by a blank or column 72.

In the following, valid abbreviations are given in parentheses following the specified command or operand keyword.

**Command	**Function
UNLOAD (U)	Specifies that an unload (backup creation) operation is to be performed.
RELOAD (R)	Specifies that a reload (backup restore) operation is to be performed.
LIST (L)	Specifies that a list operation is to be performed (only the "fromdd" operand is required and used).
MEMBER (M)	Specifies member names for the select or exclude option specified on the previous unload or reload control card. More than one member card can follow an unload/reload card so that many names can be specified. The operand field must contain one or more member names separated by commas.

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**Operand Keyword	**Function
FROMDD= (F=)	For unload: this specifies the DDNAME for the PDS. For reload: this specifies the DDNAME for the tape.
TODD= (T=)	For unload: this specifies the DDNAME for the tape. For reload: this specifies the DDNAME for the PDS.
REPLACE (R)	For unload: ignored. For reload: use the 'replace' option when 'stow'ing directory entries. If a member name exists for a name or alias, it is replaced.
LEAVE (L)	At the end of the specified operation, the "tape" file is closed with the 'leave' option thus leaving the tape mounted even if the DISP=(OLD,KEEP) is specified...NORMALLY A tape is unloaded if KEEP is specified.
SELECT (S)	For unload/reload: process only those member or alias names specified on following member cards.
EXCLUDE (E)	For unload/reload: do not process the member or alias names specified on following member cards.

(SELECT and EXCLUDE are mutually exclusive options and PDSUR uses the last one specified)

Typical Instream PROC --

The following instream PROC is shown to illustrate the basic JCL required to run PDSUR:

```
//PDSUR PROC OUT=A,BLK=3509,REG=50K
//PDSUR EXEC PGM=PDSUR,REGION=&REG
//STEPLIB DD DISP=SHR,DSN= ... (POINT AT LIBRARY FOR PDSUR PGM)
//SYSPRINT DD SYSOUT=&OUT,DCB=BLKSIZE=&BLK
//SYSIN DD DCB=(BLKSIZE=800,BUFNO=1)
// PEND
```

The above proc is used in the examples given below.

Examples --

```
- Unload two PDS's
// EXEC PDSUR
//SYSIN DD *
  UNLOAD FROMDD=DISK,TODD=TAPE
  U F=D2,T=T2
//DISK DD DISP=SHR,DSN=SYS1.PROCLIB
//D2 DD DISP=SHR,DSN=USER.LINKLIB
//TAPE DD DISP=(,KEEP),DSN=A,LABEL=1,UNIT=2400-4,
// VOL=SER=TAPE
//T2 DD DISP=(,KEEP),DSN=B,LABEL=2,VOL=REF=*.TAPE
```

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- Reload a PDS

```
// EXEC PDSUR
//SYSIN DD *
  RELOAD FROMDD=DD1,T=DD2,R
//DD1 DD DISP=OLD,DSN=M2.USRID.T
//DD2 DD DISP=OLD,DSN=M2.USRID.DISKLIB
```

- Unload and reload in same job step

```
// EXEC PDSUR
//SYSIN DD *
  UNLOAD FROMDD=DD1,TODD=DD2
  RELOAD FROMDD=DD3,TODD=DD1
//DD1 DD DISP=OLD,DSN=M2.USRID.LINKLIB
//DD2 DD DISP=(,KEEP),DSN=M2.USRID.BAKUP,LABEL=3,
// UNIT=2400-4,VOL=SER=TAPSER
//DD3 DD DISP=OLD,DSN=M2.USRID.OLDTAP,LABEL=10,
// UNIT=2400-4,VOL=SER=OLDTAP
```

- List some old unloaded PDS's

```
// EXEC PDSUR
//SYSIN DD *
  LIST FROMDD=DD1,LEAVE
  LIST F=DD2,LEAVE
  L FROMDD=DD3,L
//DD1 DD DISP=OLD,DSN=M2.USRID.F1,LABEL=1,UNIT=2400-4,
// VOL=SER=OLDPDS
//DD2 DD DISP=OLD,DSN=M2.USRID.F2,LABEL=5,VOL=REF=*.DD1
//DD3 DD DISP=OLD,DSN=M2.USRID.F3,LABEL=9,VOL=REF=*.DD1
```

- Unload with some selects and excludes

```
// EXEC PDSUR
//SYSIN DD *
  UNLOAD FROMDD=DD1,TODD=DD2,S
  MEMBER PROG1,PROG2,PROG3,PROG4
  UNLOAD FROMDD=DD1,TODD=DD3,E
  MEMBER PROG1,PROG2,PROG3,PROG4,PROGX
//DD1 DD DISP=SHR,DSN=M2.USRID.LINKLIB
//DD2 DD DISP=(,KEEP),DSN=USRID.X1,LABEL=1,UNIT=2400-4,
// VOL=(PRIVATE,RETAIN,SER=SCRTCH)
//DD3 DD DISP=(,KEEP),DSN=USRID.X2,LABEL=2,VOL=REF=*.DD2
```

- Reload with some selects and excludes

```
// EXEC PDSUR
//SYSIN DD *
  RELOAD FROMDD=DD1,TODD=DD2,LEAVE,S
  MEMBER PROG1,PROG2
  RELOAD FROMDD=DD1,TODD=DD3,EXCLUDE
```

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```
MEMBER PROG3,PROG4
MEMBER PROG5,PROGA
//DD1 DD DISP=OLD,DSN=M2.USRID.T,LABEL=5,UNIT=2400-4,
// VOL=SER=BKPTAP
//DD2 DD DISP=OLD,DSN=M2.USRID.LIB1
//DD3 DD DISP=OLD,DSN=M2.USRID.LIB2
```

*** Bugs And Problems ***

Please report all bugs and/or problems directly to your local system programmers group.

Gene unfortunately has passed away. Please address all questions or problems to:

Sam Golob, email: sbgolob@cbttape.org, or
sbgolob@attglobal.net

Be sure to include dumps (if generated) as well as a sample deck illustrating the problem.

NOTE Normal JCL or other operating problems associated with OS/360 will not be debugged.

NOTE Local or user modified versions of 'PDSUR' will not be debugged by me...GENE Czarcinski.