

DITTO



DITTO ESV Functions

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Chapter 1. Preliminaries

Summary of changes

Support for exported stacked volume from the IBM TS7700 Virtualization Engine added by APAR PK69596.

Terms

Here is an explanation of some of the terms used in the following sections:

Exported Stacked Volume

A physical volume (containing logical tape volumes) that was created using the VTS export function.

Internal Stacked Volume

A volume internal to a VTS used to archive logical volumes when the raid array is full. This volume is not in the same format as an Exported Stacked Volume.

logical volume

A tape volume created in a VTS. A logical volume may be physically on raid array in the VTS, on an Internal Stacked Volume, or on an Exported Stacked Volume. The logical volume is equivalent to a physical tape volume in a non VTS environment.

VTS Virtual Tape Server, a frame of an IBM Automated Tape Library.

Requirements

All VTS export volumes are written on devices that support the locate block CCW. DITTO uses the locate block CCW to find the start of a logical volume, therefore the input device for the Exported Stacked Volume must support the locate block CCW.

Chapter 2. EVC (Exported Stacked Volume Copy) - OS/390, MVS only

Purpose

Copy a logical volume from an Exported Stacked Volume to a physical volume. Up to 5 logical volumes can be copied in a single step.

Note: If you do not know the VOLSER and first data set name of the tape, specify BLP during allocation.

Command syntax

```
▶▶—EVC—intape—lvolsr—lblkid—outtape—▶▶
```

Parameters

intape Specification of the input tape unit.

- If the tape is already allocated specify: *ddname*
- If label processing is desired specify:
ddname,*tapevol*,*unit*,{SL | AL},*tapedsn*,[*seqnum*],[*xdate*],[*inout*]
- For NL or BLP tape processing specify:
ddname,*tapevol*,*unit*,{NL | BLP},[*seqnum*],[*xdate*],[*inout*]

lvolsr Logical volume number(s) (VOL1 for a standard labeled volume) of the volume(s) to be copied. Specify up to five logical volume numbers in the form (*volser1*, *volser2*,...). The logical volumes numbers must be unique, duplicates are not permitted (that is one logical volume can not be specified more than once). Each logical volume is copied to a single physical output volume (specified in *tapevol*).

lblkid The starting block id of each of the specified logical volumes. Required for exported stacked volume produced by the IBM TS7700 Virtualization Engine.

outtape Specification of the output tape unit.

- If the tape is already allocated specify: *ddname*[-*mm*]
- If label processing is desired specify:
ddname[-*mm*],[*tapevol*],*unit*,{SL | AL},*tapedsn*,[*seqnum*],[*xdate*]
- For NL or BLP tape processing specify:
ddname[-*mm*],[*tapevol*],*unit*,{NL | BLP},[*seqnum*],[*xdate*]

ddname

Refers to a DD or TSO ALLOC statement.

tapevol Serial number (external label or VOL) of the tape volume to be mounted.

intape Specify the Exported Stacked Volume to be used as the input volume.

outtape For multiple logical input volumes (*lvolsr*), specify up to five *volser*s in the form (*volser1*, *volser2*,...).

EVC (Exported Stacked Volume Copy) - OS/390, MVS only

There must be one to one correspondance between the logical volumes requested (lvolser) and the physical output volumes (tapevol).

tapedsn

Name of the tape data set that you want to work with, if label processing is used.

unit

A 3 hexadecimal digit device number, a 4 hexadecimal digit device number prefixed by a slash (/), a device type, or an installation-defined group name.

seqnum

Relative position of the data set on the tape.

xdate

Expiration date in the form [yy]yy.ddd.

inout

Specify YES to use DCB parameter OPEN=INOUT (open for input/output processing).

mm

A 2-byte tape mode code.

EVC (Exported Stacked Volume Copy) - OS/390, MVS only

Command syntax example, pre-TS7700

When running the EVC function in Ditto/ESA line mode, the number of parameters required may not fit in the command line. So it is recommended that you reply to the line mode Ditto/ESA prompts.

Here is an example dialog:

```
DITTO function ?
evc
No tapes allocated
Input tape ? Enter DDNAME
tap1
VOLSER ?
brc026
Unit ? (Device number, device type or group name)
3590L
Enter AL, NL or BLP if desired, otherwise SL is assumed
blp
Data set sequence number ? Or press ENTER

Enter expiration date, (yy)yy.ddd ? Press ENTER if none desired

Open tape for write ? Y or N

Operator action pending
IEC108I OPERATOR ACTION HAS BEEN REQUESTED FOR YOUR DATA SET
Enter logical VOLSER(s) required
ABC001
Enter Block ID of logical volume 1 or press ENTER if not required

Enter Block ID of logical volume 2 or press ENTER if not required

Enter Block ID of logical volume 3 or press ENTER if not required

Enter Block ID of logical volume 4 or press ENTER if not required

Enter Block ID of logical volume 5 or press ENTER if not required

Output tape ? Enter DDNAME or DDNAME-mm
tap2
VOLSER ?

Unit ? (Device number, device type or group name)
3590L
Enter AL, NL or BLP if desired, otherwise SL is assumed

Data set name ?

Data set sequence number ? Or press ENTER

Enter expiration date, (yy)yy.ddd ? Press ENTER if none desired

Output disposition ? - Enter OLD, MOD, NEW, or CAT for NEW,CATLG

Operator action pending
Copying...
```

EVC (Exported Stacked Volume Copy) - OS/390, MVS only

Command syntax example, TS7700

Here is an example dialog:

```
DITTO function ?
evc
No tapes allocated
Input tape ? Enter DDNAME
tap1
VOLSER ?
brc026
Unit ? (Device number, device type or group name)
35901
Enter AL, NL or BLP if desired, otherwise SL is assumed
blp
Data set sequence number ? Or press ENTER

Enter expiration date, (yy)yy.ddd ? Press ENTER if none desired

Open tape for write ? Y or N

Operator action pending
IEC108I OPERATOR ACTION HAS BEEN REQUESTED FOR YOUR DATA SET
Enter logical VOLSER(s) required
(HP0003,HP0007,HP0001)
Enter Block ID of logical volume 1 or press ENTER if not required

Enter Block ID of logical volume 2 or press ENTER if not required

Enter Block ID of logical volume 3 or press ENTER if not required

Enter Block ID of logical volume 4 or press ENTER if not required

Enter Block ID of logical volume 5 or press ENTER if not required

Output tape ? Enter DDNAME or DDNAME-mm
tap2
VOLSER ?

Unit ? (Device number, device type or group name)
3590L
Enter AL, NL or BLP if desired, otherwise SL is assumed

Data set name ?
'ATLTAPE.SILVANO.T3'
Data set sequence number ? Or press ENTER

Enter expiration date, (yy)yy.ddd ? Press ENTER if none desired
2008.1
Output disposition ? - Enter OLD, MOD, NEW, or CAT for NEW,CATLG
new
Operator action pending
Copying...
```

Batch syntax

```
$$DITTO EVC ..
```

Keyword syntax

```
$$DITTO EVC ..
```

EVC (Exported Stacked Volume Copy) - OS/390, MVS only

MVS keywords	VSE keywords	CMS keywords
[LABEL=BLP] INPUT= <i>ddname</i> OUTPUT= <i>ddname</i> VOLSER= <i>lvolser</i> [VBLKID1= <i>blkid</i>] [VBLKID2= <i>blkid</i>] [VBLKID3= <i>blkid</i>] [VBLKID4= <i>blkid</i>] [VBLKID5= <i>blkid</i>] [DENS= <i>mm</i>]		

Parameters

LABEL=BLP

Specifies that bypass label processing will be used. This parameter must be specified with the first DITTO function that uses the tape. For BLP processing requirements, see "Customizing the Security Environment" in the *DITTO/ESA Installation and Customization Guide*.

ddname

Refers to a DD or TSO ALLOC statement.

There must be one to one correspondance between the logical volumes requested (*lvolser*) and the physical output volumes specified in the VOL= parameter of the DD statement specified by *ddname* in the OUTPUT parameter.

lvolser

Logical volume number(s) (VOL1 for a standard labeled volume) of the volume(s) to be copied. Specify up to five logical volume numbers in the form (*volser1, volser2,...*). If greater than five volumes are selected for the copy function then messages DIT0910I and DIT1170I are issued and the copy function terminated.

The logical volumes numbers must be unique, duplicates are not permitted (that is one logical volume can not be specified more than once). Each logical volume is copied to a single physical output volume (specified in the output *ddname*).

blkid

The block id of the start of the corresponding logical volume.

mm

A 2-byte tape mode code.

EVC (Exported Stacked Volume Copy) - OS/390, MVS only

Batch example 1

```
//EVC JOB (acct),'name' Exported Stacked Volume Copy - pre TS7700
//* Copy 1 logical volume to 1 specified volume
//DTOEVC EXEC PGM=DITTO
//STEPLB DD DSN=DIT.V1R3M0.SDITLAD,DISP=SHR
//SYSPRINT DD SYSOUT=0
//TAPE1 DD UNIT=561,VOLSER=ESV001,
// DISP=SHR,LBEL=(,BLP)
//TAPE2 DD UNIT=562,VOLSER=NEWVOL,
// DISP=SHR,LBEL=(,BLP)
//SYSIN DD *
$$DITTO EVC INPUT=TAPE1,OUTPUT=TAPE2,VOLSER=LVOL03
$$DITTO EOJ
/*
```

Batch example 1 output

```
DITTO/ESA for MVS
$$DITTO EVC INPUT=TAPE1,OUTPUT=TAPE2,VOLSER=LVOL03
Logical volume LVOL03 being copied to physical volume NEWVOL
Standard Label File Number 1 DSN='LVOL03.TEST '
Copy of logical volume LVOL03 to physical volume NEWVOL complete
EVC completed
```

Batch example 2

```
//EVC JOB (acct),'name' Exported Stacked Volume Copy - pre TS7700
//* Copy 2 logical volumes to 2 specified volumes
//DTOEVC EXEC PGM=DITTO
//STEPLB DD DSN=DIT.V1R3M0.SDITLAD,DISP=SHR
//SYSPRINT DD SYSOUT=0
//TAPE1 DD UNIT=561,VOLSER=ESV001,
// DISP=SHR,LBEL=(,BLP)
//TAPE2 DD UNIT=562,VOLSER=(NEWVL1,NEWVL2),
// DISP=SHR,LBEL=(,BLP)
//SYSIN DD *
$$DITTO EVC INPUT=TAPE1,OUTPUT=TAPE2,
$$DITTO VOLSER=(LVOL03,LVOL06)
$$DITTO EOJ
/*
```

Batch example 3

```
//EVC JOB (acct),'name' Exported Stacked Volume Copy - TS7700
/* Copy 5 logical volumes to 5 scratch volumes
//DTOEVC EXEC PGM=DITTO
//STEPLB DD DSN=DIT.V1R3M0.SDITLAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//TAPE1 DD UNIT=561,VOL=ESV001,
// DISP=SHR,LABEL(,BLP)
//TAPE2 DD UNIT=562,DISP=(NEW,PASS),LBEL=(,SL)
//SYSIN DD *
$$DITTO EVC INPUT=TAPE1,OUTPUT=TAPE2,
$$DITTO VOLSER=(LVOL03,LVOL06,LVOL01,LVOL99,LVOL10),
$$DITTO VBLKID1=300,VBLKID2=355,VBLKID3=4,
$$DITTO VBLKID4=841,VBLKID5=654
$$DITTO EOJ
/*
```

Full screen interface

```
Process View Options Help
.....
DITTO/ESA for MVS EVC - Exported Stacked Volume Copy

Command ==> _____

Tapes: No tapes allocated

.. Input .....
: DDNAME to use _____ enter new name, or select one from above :
: :
: Logical Volume(s) _____ enter logical volume(s) to be copied, :
: :
: Block ID(s) _____ Block ID of logical Volumes (TS7700 only) :
: :
:.....

.. Output .....
: DDNAME to use _____ enter new name, or select one from above :
: Tape mode __ optional recording mode or density code :
: :
:.....

F1=Help F3=Exit F10=Actions F11=CRetrieve F12=Cancel
```

Additional information on the Exported Stacked Volume copy function

1. Only Exported Stacked Volume created with the VTS export function are supported by the EVC function. EVC does not support Internal Stacked Volumes that were not created by the VTS export function. Currently an Internal Stacked Volume is not compatible with an Exported Stacked Volume. To use a Exported Stacked Volume with the EVC function the volume must first be removed from the tape library where it was created, and either inserted into another tape library as a normal SL volume, or mounted on a stand alone tape drive.
2. Copying from an Exported Stacked Volume to disk is not currently supported.
3. Copying part of a logical volume or certain files from a logical volume contained on an Exported Stacked Volume is not currently supported. The complete logical volume must be copied.
4. For the input Exported Stacked Volume:

Additional information on the Exported Stacked Volume copy function

- The input allocation may be SL or BLP, if SL is used the operating system will check for a correct set of standard label headers (an input Exported Stacked Volume contains SL header records).
 - During the copy process the volume is no longer treated as an SL volume.
 - The volume is rewound at the start of the EVC function (for both SL and BLP), the standard label headers internally checked by the EVC function, and the volume verified to ensure that it was created by the VTS export function.
5. For the output volume(s):
 - The allocation may be SL, NL, or BLP, if SL is used the operating system will check for a correct set of standard label headers.
 - During the copy process the volume is no longer treated as an SL volume.
 - The volume is rewound at the start of the EVC function (for SL, NL, and BLP). Contents 7
 - If the volume contains a VOL1 header the VOLSER in the VOL1 is saved and used to change the VOL1, HDR1, and EOF1, of records from the logical input volume prior to writing to the output volume. This results in a change of VOLSER for the logical volume being copied.

To keep the VOLSER on the physical output volume the same as the VOLSER on the logical input volume, initialize the physical output volume with the same VOLSER as the logical volume prior to starting the EVC copy function.
 - If the output volume contains no VOL1 record initially then the VOLSER of the logical input volume is retained, but no update of tape management systems will occur.
 6. The copy function extracts a block of data from an Exported Stacked Volume and writes the physical block of data to the output volume. A block of data may be user data or HDR, or EOF records. There is no open or close performed for each file on the logical volume. Hence there is no interface to tape management systems, and the MVS catalog information for individual datasets on the volume is not updated.
 7. For a pre-TS7700 valid input Exported Stacked Volume the Table of Contents (located at the end of an Exported Stacked Volume) is read. The table of content is used to:
 - Verify that requested logical volume(s) exist on the input Exported Stacked Volume.
 - Index into the input Exported Stacked Volume to locate the start of a logical volume (performance).
 8. For a pre-TS7700 Exported Stacked Volume, after the table of contents has been read the Exported Stacked Volume is then rewound before the copy process starts.
 9. Requested logical volume(s) are copied to the physical volume(s). The copies are in the same order as the requested list of volumes.
 10. Up to five serial numbers of logical volumes contained on an input Exported Stacked Volume can be processed with in a single DITTO command.

Each logical volume requested is copied to a separate single physical output volume, therefore a request for 4 logical volumes to be copied will require 4 physical output volumes. There must be a one to one correspondance of logical input volumes to physical output volumes.

Additional information on the Exported Stacked Volume copy function

Currently this utility does not allow for a single logical input volume to be output to more than a single volume, therefore if the output volume is too short to contain the logical input volume the copy stops.

11. For an exported stacked volume from the IBM TS7700 Virtualization Engine, the starting block id of each logical volume to be copied has to be specified. If you do not have the report produced when the exported stacked volume was created then you can use the EVL function to produce report of contents of the exported stacked volume.

Additional information on the Exported Stacked Volume copy function

Chapter 3. EVL (Exported Stacked Volume List) - OS/390, MVS only

Purpose

List the contents of an Exported Stacked Volume. For a pre-TS7700, you can choose a short listing, which prints only the logical volumes on the Exported Stacked Volume, or you can choose a long listing which will print the volume structure of the logical volumes. For TS7700 exported stacked volume only one report format is produced, which lists logical volume, starting block id and header labels (VOL1, HDR1 and HDR2) if they exist.

Note: If you do not know the VOLSER and first data set name of the tape, specify BLP during allocation.

Command syntax

```
▶▶—EVL—intape [ type ] [ lvolses ] [ start ] [ end ] ▶▶
```

Parameters

ddname

Refers to a DD or TSO ALLOC statement.

intape Specification of the input tape unit.

- If the tape is already allocated specify: *ddname*.
- If label processing is desired specify:
ddname,tapevol,unit,{SL | AL},tapedsn,[seqnum],[xdate],[inout].
- For NL or BLP tape processing specify:
ddname,tapevol,unit,{NL | BLP},[seqnum],[xdate],[inout].

Pre-TS7700 only

type Specify one of the following:

LONG

Print detailed listing of the format of the logical volume(s) on the input Exported Stacked Volume. Parameters VOLSER or START, END may be used to qualify the logical volumes listed.

SHORT

Print only the volses(s) of the logical volumes on the input Exported Stacked Volume (default).

lvolses Logical volume numbers (VOL1 for a standard labeled volume) of the volume(s) to be listed. Specify up to five logical volume numbers in the form (volses1, volses2,...). If omitted, and the START, END parameters are not used then all logical volumes on the input Exported Stacked Volume are listed. Ignored if TYPE=SHORT.

start The relative number of the logical volume on the input Exported

EVL (Exported Stacked Volume List) - OS/390, MVS only

Stacked Volume where the listing is to start. For example START=5 will cause the first 4 logical volumes to be skipped and the listing will start with logical volume 5. If omitted, the value defaults to 1. If START is greater than END then no logical volumes will be listed. Ignored if TYPE=SHORT, or VOLSER has been specified.

end The relative number of the logical volume on the input Exported Stacked Volume where the listing is to stop. For example END=9 will cause the listing of logical volumes to stop after volume 9 has been listed. If omitted, or greater than the number of logical volumes on the input Exported Stacked Volume then the value defaults to the maximum number of volumes on the input Exported Stacked Volume. Ignored if TYPE=SHORT, or VOLSER has been specified.

End of Pre-TS7700 only

ddname

Refers to a DD or TSO ALLOC statement.

tapevol Serial number (external label or VOL) of the tape volume to be mounted.

tapedsn

Name of the tape data set that you want to work with, if label processing is used.

unit A 3 hexadecimal digit device number, a 4 hexadecimal digit device number prefixed by a slash (/), a device type, or an installation-defined group name.

seqnum

Relative position of the data set on the tape.

xdate Expiration date in the form [yy]yy.ddd.

inout Specify YES to use DCB parameter OPEN=INOUT (open for input/output processing).

mm A 2-byte tape mode code.

Command syntax examples, pre-TS7700

```
EVL TAP1,DEVE24,F07M3N80,BL,,,,LONG,(SAD002,SAD003)
EVL TAP1,DEVE24,F07M3N80,BL,,,,LONG,,2,5
```

Command syntax examples, TS7700

```
EVL TAP1,BRC025,3590L,BLP,,,,,
```

Batch syntax

```
$$DITTO EVL ..
```

Keyword syntax

```
DITTO $EVL ..
```

EVL (Exported Stacked Volume List) - OS/390, MVS only

MVS keywords	VSE keywords	CMS keywords
[LABEL=BLP] INPUT= <i>ddname</i> [TYPE={SHORT LONG}] [VOLSER= <i>lvolsr</i>] [START= <i>start</i>] [END= <i>end</i>]		

Parameters

LABEL=BLP

Specifies that bypass label processing will be used. This parameter must be specified with the first DITTO function that uses the tape. For BLP processing requirements, see “Customizing the Security Environment” in the *DITTO/ESA Installation and Customization Guide*.

ddname

Refers to a DD or TSO ALLOC statement.

Note: The following parameters are ignored when specified for an exported stacked volume created by the the IBM TS7700 Virtualization Engine.

type Specify one of the following:

LONG

Print detailed listing of the format of the logical volume(s) on the input Exported Stacked Volume. Parameters VOLSER or START, END may be used to qualify the logical volumes listed.

SHORT

Print only the volsr(s) of the logical volumes on the input Exported Stacked Volume (default).

lvolsr Logical volume numbers (VOL1 for a standard labeled volume) of the volume(s) to be listed. Specify up to five logical volume numbers in the form (volsr1, volsr2,...). If omitted, and the START, END parameters are not used then all logical volumes on the Exported Stacked Volume are listed. Ignored if TYPE=SHORT.

start The relative number of the logical volume on the input \$esv. volume where the listing is to start. For example START=5 will cause the first 4 logical volumes to be skipped and the listing will start with logical volume 5. If omitted, the value defaults to 1. If START is greater than END then no logical volumes will be listed. Ignored if TYPE=SHORT, or VOLSER has been specified.

end The relative number of the logical volume on the input Exported Stacked Volume where the listing is to stop. For example END=9 will cause the listing of logical volumes to stop after volume 9 has been listed. If omitted, or greater than the number of logical volumes on the input Exported Stacked Volume then the value defaults to the maximum number of volumes on the input Exported Stacked Volume. Ignored if TYPE=SHORT, or VOLSER has been specified.

EVL (Exported Stacked Volume List) - OS/390, MVS only

Batch example, pre-TS7700

```
//EVL JOB (acct),'name' Exported Stacked Volume Lst
//DITTOEVL EXEC PGM=DITTO
//STEPLB DD DSN=DIT.V1R3M0.SDITLAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//TAPE DD UNIT=F07M3N80,VOLSER=ESV994,
// DISP=SHR,LBEL=(,BLP
//SYSIN DD *
$$DITTO EVL INPUT=TAPE,TYPE=LNG,VOLSER=(EJ0020,EJ1019,EJ1029,EJ1035)
$$DITTO EOJ
/*
```

Batch example output, pre-TS7700

```
DITTO/ESA for MVS
$$DITTOEVL INPUT=TAPE,TYPE=LNG,VOLSER=(EJ0020,EJ1019,EJ1029,EJ1035)
Exported Stacked Volume Table of Contents for Volume ESV994
      VOLSER  SEQ NO  Logical Volume Layout
      EJ1019      3  VOLEJ1019
                          HDR1PE.MNT06.TAB35100
                          ----- TAPE MARK -----
                          Data File
                          ----- TAPE MARK -----
                          EOF1PE.MNT06.TAB35100
                          ----- TAPE MARK -----
                          ----- TAPE MARK -----
                          ===== End of Volume =====
      EJ1035      4  VOLEJ1035
                          HDR1PE.MNT12.TAB35100
                          ----- TAPE MARK -----
                          Data File
                          ----- TAPE MARK -----
                          EOF1PE.MNT12.TAB35100
                          ----- TAPE MARK -----
                          ----- TAPE MARK -----
                          ===== End of Volume =====
      EJ1029      7  VOLEJ1029
                          HDR1PE.MNT08.TAB35100
                          ----- TAPE MARK -----
                          Data File
                          ----- TAPE MARK -----
                          EOF1PE.MNT08.TAB35100
                          ----- TAPE MARK -----
                          ----- TAPE MARK -----
                          ===== End of Volume =====
      EJ1029 10  VOLEJ0020
                          HDR1.BACKTAPE.DATASET
                          ----- TAPE MARK -----
                          Data File
                          ----- TAPE MARK -----
                          EOF1.BACKTAPE.DATASET
                          ----- TAPE MARK -----
                          ----- TAPE MARK -----
                          ===== End of Volume =====

EVL completed
$$DITTO EOJ
```

EVL (Exported Stacked Volume List) - OS/390, MVS only

Batch example, TS7700 exported stacked volume

```
//EVL JOB (acct),'name' Exported Stacked Volume List
//DITEVL EXEC PGM=DITTO
//STEPLIB DD DSN=DIT.V1R3M0.SDITLOAD,DISP=SHR
//SYSPRINT DD SYSOUT=*
//TAPE DD UNIT=3590L,VOL=SER=Q00910,
// DISP=SHR,LABEL=(,BLP)
//SYSIN DD *
$$DITTO EVL INPUT=TAPE,LABEL=BLP
$$DITTO EOJ
/*
```

Batch example output, TS7700

```
Batch Example Output - TS7700 exported stacked volume

$$DITTO EVL INPUT=TAPE,LABEL=BLP
DIT1810I No more data found on input tape
Exported Stacked Volume Q00910 - List of Logical Volumes
VOLSER SEQ NO BLOCK ID LABELS
B80042 1 4 VOL1B80042 HDRINE.J805E.MHMI3G03B8004200010001 00816100816100000001BM 05/VS 370
HDRZF327603276000BA50805E/WRITET P B 03520
259828 2 508 VOL1259828 HDRINE.J805D.MHMI3G0325982800010001 00816100816100000001BM 05/VS 370
HDRZF327603276000BA50805D/WRITET P B 0352F

Exported Stacked Volume Q00910 - end of list
EVL completed
```

Note: You will always receive DIT1810I No more data found on input tape.

Full screen interface

```
Process View Options Help
.....
DITTO/ESA for MVS EVL - Exported Stacked Volume List

Command ==> _____

Tapes: No tapes allocated

.. Input .....
: DDNAME to use _____ enter new name, or select one from above :
:
: Following fields only used for pre TS7700 exported stacked volume... :
: Type of Listing SHORT enter LONG to list logical volume details :
:
: For LONG (Optional) :
: Logical Volume(s) _____ :
: enter logical volume(s) to be listed :
: Or :
: Logical Start 0 enter logical start volume :
: Logical End 0 enter logical end volume :
:.....

F1=Help F3=Exit F10=Actions F11=CRetrieve F12=Cancel
```

Additional information on the Exported Stacked Volume list function

1. Only Exported Stacked Volume created with the VTS export function are supported by the EVL function. EVL does not support Internal Stacked Volumes that were not created by the VTS export function. Currently an Internal Stacked Volume is not compatible with an Exported Stacked Volume. To use a Exported Stacked Volume with the EVL function the volume must first

Additional information on the Exported Stacked Volume list function

be removed from the tape library where it was created, and either inserted into another tape library as a normal SL volume, or mounted on a stand alone tape drive.

2. For the input Exported Stacked Volume:
 - The input allocation may be SL or BLP, if SL is used the operating system will check for a correct set of standard label headers (an Exported Stacked Volume contains SL header records).
 - During the list process the volume is no longer treated as an SL volume.
 - The volume is rewound at the start of the EVL function (for both SL and BLP), the standard label headers internally checked by the EVL function, and the volume verified to ensure that it was created by the VTS export function.

3. TYPE parameter

SHORT

produces a list of the logical volumes contained in the input Exported Stacked Volume table of contents.

LONG

produces a more details description of the contents. LONG causes a rescan of the input Exported Stacked Volume to list the structure of each logical volume requested, including the DSN on any HDR1 records located.

4. VOLSER parameter is only used when TYPE=LONG is requested.
5. START and END parameters are only used when TYPE=LONG is requested and VOLSER has not been requested. If both VOLSER and START, END are requested then only VOLSER is honored.
6. For a valid input Exported Stacked Volume the Table of Contents (located at the end of an Exported Stacked Volume) is read. The table of content is used to:
 - Verify that requested logical volume(s) exist on the input Exported Stacked Volume.
 - Index into the input Exported Stacked Volume to locate the start of a logical volume (performance).
7. For a LONG list type, after the table of contents has been read the input Exported Stacked Volume is then rewound before the detailed list process starts.

Chapter 4. DITTO Exported Stacked Volume messages

DIT2810I **Error on xxxxx tape, not a valid Exported Stacked Volume**

Explanation: The volume loaded for input to the EVC (copy) or EVL (list) function is not a valid Exported Stacked Volume. Either the volume has been corrupted or the wrong volume has been requested. Processing cannot continue.

DIT2820I **Error on xxxxx tape, bad table of contents on input volume**

Explanation: The volume loaded for input to the EVC (copy) or EVL (list) function has a corrupted table of contents. Processing cannot continue.

DIT2830I **Error logical volume xxxxx not found in TOC of volume vvvvvv**

Explanation: The volume loaded for input to the EVC (copy) or EVL (list) function does not contain the requested logical volume in its table of contents. Processing does continue. Correct the input and retry the request.

DIT2840I **Error duplicate logical volume vvvvvv in request list**

Explanation: A duplicate logical volume name has been entered into the logical volume request list. Processing does not continue. Correct the input and retry the request.

0285 **Copy has encountered an NL file, SL file numbers following may not be accurate**

Explanation: This is a report line for the EVC copy function. The input sequence of HDR, data, EOF, for standard labeled files has been broken by an NL file. If standard label files have been reported on this volume then the volume created is a MIXED volume. If standard label files have not been reported on this volume then the volume created is an NL volume. (Message number not displayed).

0286 **Standard Label File Number nnnn DSN='data.set.name'**

Explanation: This is a report line for the EVC copy function. This line reports the DSN on the HDR1 record for the standard label file number reported in the message. (Message number not displayed).

0287 **Logical volume vvvvvv being copied to**

physical scratch volume

Explanation: Indicates the start of a copy function. The message reports the VOLSER of the logical input volume, and the physical output volume as being a scratch volume which did not previously have a VOL1 record. The resulting VOL1 on the output volume is the same as the logical input volume. (Message number not displayed).

0288 **Copy of logical volume vvvvvv to scratch volume complete**

Explanation: Indicates the successful completion of the copy function. The message reports the VOLSER of the logical input volume, and the physical output volume as being as a scratch volume which did not previously have a VOL1 record. The resulting VOL1 on the output volume is the same as the logical input volume. (Message number not displayed).

0289 **Error copy Failed: Copy of logical volume vvvvvv to scratch volume failed**

Explanation: Indicates a failure of the copy function. The message reports the VOLSER of the logical input volume, and the physical output volume as being a scratch volume which did not previously have a VOL1 record on the volume. The resulting output volume may have a VOL1 with the same VOLSER as the logical input volume. (Message number not displayed).

0290 **Logical volume vvvvvv being copied to physical volume wwwwww**

Explanation: Indicates the start of a copy function. The message reports the VOLSERs of the logical input volume and the physical output volume. (Message number not displayed).

0291 **Copy of logical volume vvvvvv to physical volume wwwwww complete**

Explanation: Indicates the successful completion of the copy function. The message reports the VOLSERs of the logical input volume and the physical output volume. (Message number not displayed).

0292 **Error copy Failed: Copy of logical volume vvvvvv to physical volume wwwwww failed**

Explanation: Indicates the failure of copy function. The message reports the VOLSERs of the logical input volume and the physical output volume. (Message number not displayed).

DITTO Exported Stacked Volume messages

0293 **Exported Stacked Volume Table of Contents for Volume vvvvvv**

Explanation: This is a report header for the EVL list function. (Message number not displayed).

0294 **VOLSER SEQ NO Logical Volume Structure**

Explanation: This is a report header for the EVL list function. VOLSER is the volser of the logical volume on the Exported Stacked Volume SEQ NO is sequence number of the standard label file on the Exported Stacked Volume. (Message number not displayed).

0295 **===== End of Volume =====**

Explanation: This is a report line for the EVL list function. (Message number not displayed).

0296 **Data File**

Explanation: This is a report line for the EVL list function. (Message number not displayed).

0297 **----- Tape Mark -----**

Explanation: This is a report line for the EVL list function. (Message number not displayed).

DIT2980I **Output volume xxxxxx not long enough for logical volume vvvvvv**

Explanation: Output volume is no long enough to contain the logical volume being copied. This is a report line (not a message number) for the EVL list function.

DIT2990I **Error code nn processing Exported Stacked Volume**

Explanation: An unexpected error occurred while processing the input Exported Stacked Volume, the error code gives an indication of the problem.

01-03 **Initial input volume positioning error**

Explanation: Possible drive error

06-10 **Error processing header labels on input volume**

Explanation: Possible bad input volume

15-24 **Error during Exported Stacked Volume verification process**

Explanation: This is not a volume created by the VTS export function or the volume has become corrupted

30-34 **Error reading the Table of Contents file from the Exported Stacked Volume**

Explanation: The Table of Contents file on the Exported Stacked Volume may be corrupted

40-48 **Logical volume could not be correctly located on the Exported Stacked Volume**

Explanation: The volume may be corrupted

49 **Logical volume could not be correctly located on the Exported Stacked Volume**

Explanation: The drive on which the input Exported Stacked Volume is mounted may not support the locate block CCW, or the volume may be corrupted

50-51 **Error during copy process**

Explanation: Possible drive error

55-58 **Error during listing process**

Explanation: Possible drive error

60-62 **Error positioning output volume**

Explanation: Possible drive error

66-79 **Internal VTS record format error**

Explanation: The volume may be corrupted

85-86 **Error writing to output volume**

Explanation: Possible drive error

90-93 **Unable to obtain storage for work areas.**

Explanation: For error code 90-92 the storage has been requested above the 16M line, for error code 93 the storage has been requested below the 16M line,

95 **General copy error**

Explanation: See earlier message for more detailed error code.

3152 **Enter SHORT or LONG for listing type required, or press ENTER for SHORT listing**

Explanation: This is a prompt line for the non full screen interface. (Message number not displayed).

DITTO Exported Stacked Volume messages

3153 **Enter logical VOLSER(s) required**

Explanation: This is a prompt line for the non full screen interface. (Message number not displayed).

3156 **Enter START sequence number, or press
ENTER for first logical volume**

Explanation: This is a prompt line for the non full

screen interface. (Message number not displayed).

3157 **Enter END sequence number, or press
ENTER for last logical volume**

Explanation: This is a prompt line for the non full screen interface. (Message number not displayed).

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