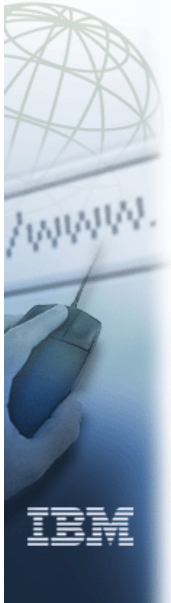


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z/OS UNIX V1R7 and ISHELL Enhancements TSO enhancements



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eNetwork	DFSMS/MVS	IMS	RACF
geoManager	DFSMSdfp	IMS/ESA	RMF
AD/Cycle	DFSMSdss	IP PrintWay	RS/6000
ADSTAR	DFSMSshsm	IPDS	S/390
AFP	DFSMSrmm	Language Environment	S/390 Parallel Enterprise Server
APL2	DFSORT	Multiprise	SecureWay
APPN	Enterprise System 3090	MQSeries	StorWatch
BookManger	Enterprise System 4381	MVS/ESA	Sysplex Timer
BookMaster	Enterprise System 9000	Network Station	System/390
C/370	ES/3090	NetSpool	SystemView
CallPath	ES/4381	OfficeVision/MVS	SOM
CICS	ES/9000	Open Class	SOMobjects
CICS/ESA	ESA/390	OpenEdition	SP
CICS/MVS	ESCON	OS/2	VisualAge
CICSPlex	First Failure Support Technology	OS/390	VisualGen
COBOL/370	FLowMark	Parallel Sysplex	VisualLift
DataPropagator	FFST	Print Services Facility	VTAM
DisplayWrite	GDDM	PrintWay	WebSphere
DB2	ImagePlus	ProductPac	3090
DB2 Universal Database	Intelligent Miner	PR/SM	3890/XP
DFSMS/MVS	IBM	QMFr	z/OS
			z/OS.e

Domino (Lotus Development Corporation)
DFS (Transarc Corporation)
Java (Sun Microsystems, Inc.)
Lotus (Lotus Development Corporation)

Tivoli (Tivoli Systems Inc.)
Tivoli Management Framework
(Tivoli Systems Inc.)
Tivoli Manger (Tivoli Systems Inc.)

UNIX (X/Open Company Limited)
Windows (Microsoft Corporation)
Windows NT (Microsoft Corporation)



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ISHELL Enhancements - z/OS V1R7



- Option to specify logical or real path on the file list
- Improve ISHELL entry messages if user cannot access
- Allow specification of file attributes if creating a new file
- Keep a path history similar to ISPF NRETRIEV
- Preserve file format and CCSID on copy
- Support a refresh command on the file list
- Add a group list panel similar to the user list panel
- Capture and show zFS errors when trying to create a zFS file system



Other TSO Enhancements - z/OS V1R7



- OEDIT improvements
- TSO utility
- BPXWDYN interface
- Mount wait option
- Mounting with SET OMVS command



Option for Logical or Real Path



Specify logical or real path on file list

```
Directory List Options

Select options and fields to be displayed with /

/ File type ( 4 columns)
/ Permissions: octal ( 4 columns)
- Permissions: rwx (10 columns)
/ Change time (16 columns)
/ Owner ( 9 columns)
/ File size (10 columns)

- View/change sort options...
- View/change file name highlighting...
/ Verbose directory list panel
- Null Enter refreshes list
- Stop processing multiple selections after a message
- Do not normalize the selected path to the real path
```



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ISHELL Messages



If a user is unable to access the ISHELL

- The panel will not display
- ISHELL will terminate
- An ISPF message will be displayed



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File Attributes on a New File



```
                                Create a New File

Pathname:

/u/rogers/tst100                                     More:      +
_____
_____
_____

Permissions . . 777  (3 digits, each 0-7)

File type                                     File source for regular file
2  1. Directory                               1  1. Edit...
   2. Regular file                             2. Copy file...
   3. FIFO                                       3. Copy data set...
   4. Symbolic link...
   5. Hard link...

View and set attributes . . . Y
```

Overtyp e N to Y



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Display File Attributes Panel



```
  Edit  Help

                                Display File Attributes

Pathname : /u/rogers/tst100                                     More:      +

File type . . . . . : Regular file
Permissions . . . . . : 0 -----
Access control list . : 0
File size . . . . . : 0
File owner . . . . . : HAIMO(0)
Group owner . . . . . : SYS1(2)
Last modified . . . . : 2005-08-16 13:10:50
Last changed . . . . . : 2005-08-16 13:10:50
Last accessed . . . . . : 2005-08-16 13:10:50
Created . . . . . : 2005-08-16 13:10:50
Link count . . . . . : 1

F1=Help          F3=Exit          F4=Name
F7=Backward     F8=Forward       F12=Cancel
```



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File Attribute Options (1 to 8)



```
  Edit  Help

  1. Mode fields...
  2. Owing user...
  3. Owing group...
  4. User auditing...
  5. Auditor auditing...
  6. File format...
  7. Extended attributes...
  8. Access control list...
  *. Directory default ACL...
 *0. File default ACL...

                                     More:      +
                                     13:10:50

Last changed . . . . : 2005-08-16 13:10:50
Last accessed . . . . : 2005-08-16 13:10:50
Created . . . . . : 2005-08-16 13:10:50
Link count . . . . . : 1
F1=Help          F3=Exit          F4=Name
F7=Backward      F8=Forward        F12=Cancel
```

Enable Directory Reference List



Enter (ref on) on command line or use

➤ Options - then option 5. Advanced

New

```
Advanced Options

Select options

_ Bypass delete confirmations
_ Bypass exit confirmation
_ No auto-skip on action panels
_ Always start initial panel with current directory
/ Enable directory reference list

Command line position:
1  1. Top
   2. Bottom
   3. Inherit
```

Directory Reference List Display



- ❑ Viewing the list - Enter **ref** on command line
- ❑ Enter a **S** or a **/** to select an entry

```
Directory Reference List          Row 1 to 16 of 16
Command ==> _____ Scroll ==> PAGE

Directory
- /usr/lpp/dfsms/
- /usr/lpp/
- /u/
- /bin/
- /etc/cmx/
- /etc/
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
```



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Refresh the Directory List



- ❑ Use Options - then 1. Directory list - Put **/**
- ❑ New option - **refr** or **refresh** on command line

```
Directory List Options

Select options and fields to be displayed with /

/ File type ( 4 columns)
/ Permissions: octal ( 4 columns)
- Permissions: rwx (10 columns)
/ Change time (16 columns)
/ Owner ( 9 columns)
/ File size (10 columns)

- View/change sort options...
- View/change file name highlighting...
/ Verbose directory list panel
- Null Enter refreshes list
- Stop processing multiple selections after a message
- Do not normalize the selected path to the real path
```



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New Option Group List



List of all groups and GIDs

- Sorted by group name

New option

```
File Directory Special_file Tools File_systems Options Setup Help
UNIX System Services
Command ==> _____
Enter a pathname and do one of these:
- Press Enter.
- Select an action bar choice.
- Specify an action code or command on
Return to this panel to work with a different pathname.
More: +
/u/rogers
_____
_____
EUID=0
```

1. User...
2. User list...
3. All users...
4. All groups...
5. Permit field access...
6. Character Special...
7. Enable superuser mode(SU)
8. Group list...



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Group List Panel



After selecting Option 8

```
File Help
Group List Row 1 to 24 of 249
Command ==> _____
Group      GID
@PL        9876790
ACFNCP     9876791
ADSM       9876792
AMS        9876793
ANO        9876794
AOF        9876795
AOPADMIN   101
AOPOPER    100
APL2       9876796
```



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Sort the Group List



- ❑ From the Group List panel
 - Put the cursor under File and hit Enter
 - Select sort option

```
File Help
-----
- 1. Sort name
  2. Sort GID
  3. Print
  4. Exit

ACFNCP 9876791
ADSM   9876792
AMS    9876793
ANO    9876794
AOF    9876795
AOPADMIN 101
AOPOPER 100
APL2   9876796
```

Group List Row 1 to 24 of 251



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Messages when Creating zFS Filesystems

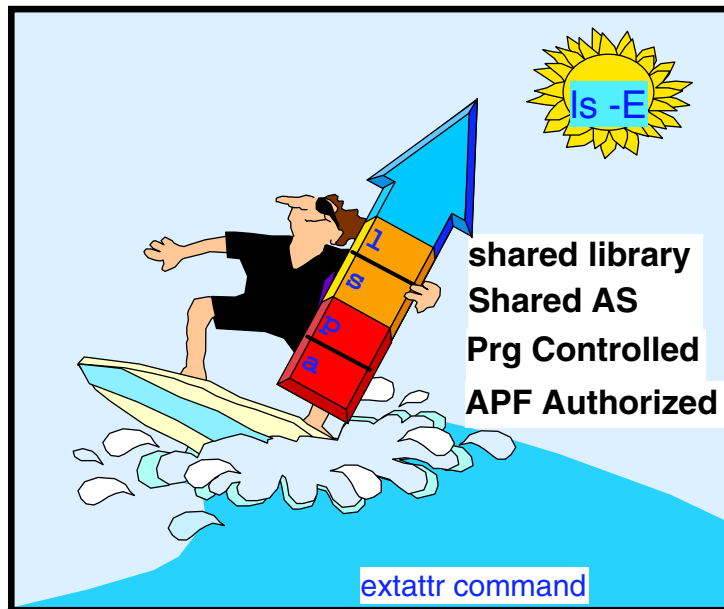


- ❑ Capture and show zFS errors when creating a zFS file system
 - Error messages are written to the screen in line mode similar to TSO
 - Return to the same dialog panel after command is completed
 - This change makes it easier to repeat the command, possibly changing arguments
- ❑ Priming the pathname on the main ISHELL panel is based on the pathname saved at the time that ISHELL exited



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Extended Attributes Is -E (OEDIT Enhancements)



```
rwX rwX rwX   fff--- a p s l filename
```



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OEDIT Enhancements



- OEDIT opens files in R/W mode
- If a file has extended attributes
 - OPEN causes the attributes to be reset even if use does not save changes
 - Confirmation panel is now issued before processing the OEDIT
- Increase maximum width for file edit to 32752



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TSO OEDIT Command Enhancements



- ❑ Alert user that a file being edited has extended attributes set
- ❑ Opening a file causes these attributes to be reset
 - A confirmation panel is shown before proceeding

```
----- EDIT - EXTENDED ATTRIBUTES -----  
Command ==>  
  
The file you are about to edit has one or more authorized extended  
attributes  
set.  If you continue these attributes may be reset.  
Press Enter to continue or END (usually PF3) to stop.  
  
Path:  
/u/rogers/apf.file
```



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Allocating SYSTSPRT from TSO



- ❑ A user can allocate SYSTSPRT with the environment variable: TSOOUT
- ❑ Example:
 - export tsoout="alloc path('/dev/tty') pathopts(owronly) filedata(text)"
- ❑ When tsoout is specified, the tso shell command post processing routine is not called to display and delete its usual output data set



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BPXWDYN Interface



- ❑ A text interface for dynamic allocation and dynamic output services
- ❑ Invoked from as a REXX function
 - Using a standard MVS variable length parameter list
 - Add SVC99 info retrieval capability to be able to determine the DD names and data set names, and path names for current allocations
 - Allocation attributes will not be supported at this time
 - Add keys for tape processing: position, label, retpd, trtch
 - Allow resetting of S99NOMNT



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Mount Utility

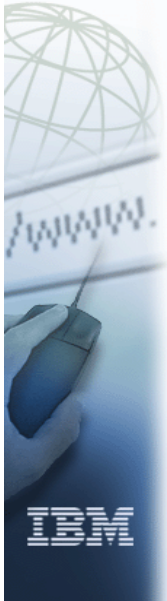


- ❑ A wait option is provided so the mount waits for async mounts to complete
 - Syntax of this optional flag is - w n
 - n is wait time in seconds
- ❑ If n is specified as 0, the wait is indefinite
- ❑ The -w option flag is tolerated on any form of the mount command and is ignored if no wait needs to be done



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z/OS UNIX Mounting File Systems with SET OMVS



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Using SET OMVS Command for Mounts



- ❑ No direct way to execute a list of mounts from the operator's console
 - z/OS Unix Systems Services supports only a subset of the commands that are used during an IPL with the SET OMVS command
- ❑ Obtaining a summary of prior mount or move filesystem failures from the console would be helpful
- ❑ Now, the mount configuration can be changed from the console
 - Change the mount configuration from the console using a BPXPRMxx parmlib member
 - Display file system move failures with D OMVS

Mounting File Systems with SET OMVS

- ❑ Previously, when the SET OMVS=xx command was issued from the console to activate a BPXPRMxx parmlib member
 - MOUNT statements in the BPXPRMxx member were not executed
- ❑ z/OS V1R7 - using the SET OMVS=xx operator command from the console:
 - MOUNT commands in the BPXPRMxx parmlib member are executed
 - Easier to dynamically mount file systems



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Mounting with SET OMVS Command

- ❑ z/OS V1R7 changes for mounting filesystems
 - Can now change the mount configuration from the console using a BPXPRMxx parmlib member
 - Information about prior mount or file system move failures can be displayed with D OMVS command
- ❑ Execute mount commands, including mounting the root
 - See console messages indicating success or failure of the mount requested
- ❑ Statements that can be changed
 - MOUNT, FILESYSTYPE, SUBFILESYSTYPE, NETWORK and ROOT statements



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BPXPRMxx Member for SET OMVS=xx



```
/*-----*/
/* MOUNTs TO BE USED WITH SET OMVS=XX COMMAND - TEST */
/*-----*/
/*--- NOT MOUNTED -----*/
MOUNT FILESYSTEM('HFS.TEST.MOUNT')
  MOUNTPOINT('/TEST/TSTMOUNT')
  NOAUTOMOVE
  TYPE(HFS) MODE(RDWR)

/*--- ALREADY MOUNTED -----*/
MOUNT FILESYSTEM('HFS.TEST.MOUNT2')
  MOUNTPOINT('/TEST/TSTMOUNTY')
  NOAUTOMOVE
  TYPE(HFS) MODE(RDWR)

/*--- WITHOUT MOUNTPOINT -----*/
MOUNT FILESYSTEM('HFS.TEST.MOUNT3')
  MOUNTPOINT('/TEST/TSTMOUNTW')
  NOAUTOMOVE
  TYPE(HFS) MODE(RDWR)

/*--- WITHOUT HFS DATASET -----*/
MOUNT FILESYSTEM('HFS.TEST.MOUNT4')
  MOUNTPOINT('/TEST/TSTMOUNTZ')
  NOAUTOMOVE
  TYPE(HFS) MODE(RDWR)
```



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Mount Processing Considerations



- Any MOUNT that duplicates an existing filesystem in both FILESYSTEM name and MOUNTPOINT is ignored
- Standard mount error messages are written to the console for any other failure
- Successful mounts also generate a console message
- Any FILESYSTYPE or SUBFILESYSTYPE statement that duplicates an existing PFS will generate an informational message
 - No messages will be written to the console or hard copy log for successful processing
- Any NETWORK statement that duplicates an existing address family are accepted as an update to the MAXSOCKETS value



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Possible Messages with SET OMVS=xx



SET OMVS=xx

IEE252I MEMBER BPXPRMxx FOUND IN SYS1.PARMLIB
BPXO032I THE SET OMVS COMMAND WAS SUCCESSFUL.

BPXF013I FILE SYSTEM HFS.TEST.MOUNT 815
WAS SUCCESSFULLY MOUNTED.

BPXF237I FILE SYSTEM HFS.TEST.MOUNT2 816
WAS ALREADY MOUNTED ON PATHNAME
/TEST/TSTMOUNTY.

BPXF008I FILE SYSTEM HFS.TEST.MOUNT3 817
WAS NOT MOUNTED.
THE MOUNT POINT SPECIFIED IN BPXPRMTT DOES NOT EXIST.

BPXF002I FILE SYSTEM HFS.TEST.MOUNT4 WAS 818
NOT MOUNTED. RETURN CODE = 00000081, REASON CODE = EF096055



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New Command Options



- D OMVS,MF - displays the last 10 (or less) failures
- D OMVS,MF=A - displays up to 50 failures
 - D OMVS,MF=ALL
- D OMVS,MF=P - deletes the failure information log
 - D OMVS,MF=PURGE



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Mount Error Command and Messages



D OMVS, MF

```
BPXO058I 16.05.10 DISPLAY OMVS 356
OMVS      0011 ACTIVE          OMVS=(7B)
SHORT LIST OF FAILURES:
TIME=16.02.09  DATE=2005/08/16          MOUNT RC=007A  RSN=052C018F
NAME=HAIMO.ZFS
TYPE=ZFS
PATH=/SC70/tmp/bpxwh2z.HAIMO.16:01:56.zfs
PARM=AGGRGROW
TIME=10.57.24  DATE=2005/08/15          MOUNT RC=0079  RSN=5B220125
NAME=OMVS.TCPIPMVS.HFS
TYPE=HFS
PATH=/u/tcpipmvs
```



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Mount Error Commands and Messages



D OMVS, MF=A

```
BPXO058I 13.26.37 DISPLAY OMVS 974
OMVS      0011 ACTIVE          OMVS=(TT)
LAST PURGE: TIME=08.49.43  DATE=2005/05/11
ENTIRE LIST OF FAILURES:
TIME=09.36.41  DATE=2005/05/13          MOUNT RC=0081  RSN=EF096055
NAME=HFS.TEST.MOUNT4
TYPE=ZFS
PATH=/TEST/TSTMOUNTZ
PLIB=BPXPRMTT
(...up to 50 failures)
```

D OMVS, MF=P

```
BPXO058I 13.30.25 DISPLAY OMVS 010
OMVS      0011 ACTIVE          OMVS=(TT)
PURGE COMPLETE: TIME=13.30.25  DATE=2005/05/13
```

D OMVS, MF

```
BPXO058I 13.42.45 DISPLAY OMVS 041
OMVS      0011 ACTIVE          OMVS=(TT)
LAST PURGE: TIME=13.30.25  DATE=2005/05/13
NO MOUNT OR MOVE FAILURES TO DISPLAY
```



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