



Interactive System Productivity Facility (ISPF)

## ISPF Hidden Treasures and New Features



SHARE 116  
Sessions 8674 & 8675

Peter Van Dyke  
IBM Australia  
SHARE 116, Winter 2011  
pvandyke@au1.ibm.com

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Interactive Program Development Facility (ISPF)



## Hidden Treasures and New Features in ISPF

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Hidden Treasures/New Features | Sessions 8674 & 8675

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## Hidden Treasures and New Features in ISPF...

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- User Command Tables
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## DSLIS

- **DSLIS** *personal\_list\_name* | *pattern*
  - If a list name exists by that name, a data set list will be built based on the entries in the list
  - If a list name does not exist, the parameter is treated as a pattern
- **APPEND** command from within Data Set List
  - Adds entries to the displayed list
  - specify a personal list name or a pattern
- **REFRESH** command from within Data Set List
  - Refreshes display to original list filter criteria
- **EXCLUDE** command and X line command from within Data Set List
  - Excludes data sets displayed in list
  - Shadow line displayed

## New Data Set List Commands - z/OS 1.2

### MEMBER command

- allows the partitioned data sets in the list to be searched for a specific member name or pattern
- Syntax: `Member string [X|EX|NX][RECALL1|RECALL2]`
- Message field identifies data sets containing the member(s)

### SRCHFOR command

- Invokes SuperC to search the listed data sets for strings
- Syntax: `SRCHFOR [string]`
- Displays panel used to specifying options for SuperC
- Message field identifies data sets containing the string
- SuperC output written to data set (default: `userid.SRCHDSL.LIST`)

## Data Set List Enhancements

### Enhanced SORT command (z/OS 1.7)

- Provides ability to sort a data set list in ascending or descending order
- Syntax: `SORT major-field [A|D] [minor-field] [A|D]`

### Display Total Tracks Value (z/OS 1.9)

- New **Display Total Tracks** option added to the Data Set List Utility entry panel
- If selected, an additional header line showing the total tracks used by the data sets is displayed with the **Space** and **Total** views
- Pop-up window showing data collection progress displayed when calculating total tracks for a list of 50 or more data sets

## Data Set List Enhancements. . .

### ▪Block Line Commands (z/OS 1.10)

- Allows Data Set List line commands to be entered in blocks
- A block of line commands is marked by entering two forward slash characters (*//*) at the start and end of the block
- The required line command is entered on the first or last line of the block, immediately following the two forward slash characters
- All line commands, including TSO commands, Clists and REXX execs can be executed as block commands

### ▪Include PREFIX in Dsname Level (z/OS 1.11)

- New **Prefix Dsname Level** option added to the Data Set List Utility entry panel
- If selected, ISPF will add the TSO prefix (if the user's TSO profile has PREFIX defined) as the first qualifier if the Dsname Level entered is not enclosed in quotes

## New Member List Commands - z/OS 1.5

### ▪SRCHFOR command

- Invokes SuperC to search the listed members for strings
- Syntax: **SRCHFOR** [*string*]
- Displays panel used to specifying options for SuperC
- PROMPT column identifies members containing the string
- SuperC output written to data set (default: **userid.SRCHML.LIST**)

### ▪SORT PROMPT command

- Sorts members with messages in the PROMPT column to the top of the member list
- Use after **SRCHFOR** command to group all members containing *string* at the top of the member list

## Member List Enhancements

### Enhanced SORT command (z/OS 1.7)

- Provides ability to sort a data set list in ascending or descending order
- Syntax: `SORT major-field [A|D] [minor-field] [A|D]`

### New FILTER command (z/OS 1.8)

- Used to display only those members having an attribute matching a specified value
- Syntax: `FILTER [field operator value]`
  - `field` member list column name
  - `operator` EQ, NE, LE, LT, GE, or GT
  - `value` the comparison value
- Member List SRCHFOR command also enhanced to optionally display only those members containing the SRCHFOR string

## Edit COMPARE Command

- Syntax: `COMPARE [member|data_set_name|NEXT]* [X] [SYSIN]`
- Uses SuperC APIs to compare to data sets or members
- Changes are highlighted depending on if the change is new to the source (member or data set where COMPARE command was issued), only in the target, or common
- `NEXT` compares next member in hierarchy of ISPF library
- `X` excludes common lines except for a few around differences
- `SYSIN DD` has additional SuperC Process Statements

```

VIEW      PDFDEV.STG.GML(ISPCMDS) - 01.03      Changes are shown
Command ==> _____ Scroll ==> CSR
000052      altdescr="CMDE"
=====
.OAAAA      <cmdact action="SELECT PGM(ISPCCMDE)"
000054      <cmdact action="SELECT PGM(ISPCCMDE) SUSPEND"
000054
000055      <:----- COLOR ----->
000056      <cmd name=COLOR
000057      altdescr="INVOKE GLOBAL COLOR CHANGE UTILITY"
000058      <cmdact action=
----- 350 Line(s) not Displayed
000409      altdescr="Turn ISPF/TSO GUI WINDOW ON or OFF"
000410      <cmdact action="SELECT PGM(ISPISM) PARM(TSOGUI,&amp;ZPARAM)"
  
```

Annotations:

- only in "target" (NEXT in this case) MD to "make data" (points to red text)
- new in "source" (points to green text)
- common (points to black text)
- common lines excluded by X parameter (points to black text)

## Edit COMPARE Enhancement (z/OS 1.11)

- The SYSIN keyword on the COMPARE command is enhanced to support a sub-parameter

- User can specify the SuperC process statements data set name as a sub-parameter of the SYSIN keyword

Syntax: **SYSIN(dsn)**

- Alternatively, the user can request the display of a pop-up panel where the SuperC process statements data set name can be entered

Syntax: **SYSIN(/)**

## New Edit Primary Commands - z/OS 1.6

### ▪ HIDE command

- Removes excluded line messages from the Edit/View display
- Line number underscored to indicate "hidden" line(s)
- Syntax: **HIDE X**
- **RESET** primary command has **HIDE** option to allow redisplay of excluded line messages

–Syntax: **RESET HIDE**

### ▪ COLS command

- Causes a columns line to be displayed at the top of each Edit/View data screen (i.e. stays with the Edit/View display)
- Syntax: **COLS [ON|OFF]**

## Other Edit Enhancements

### ■ UNDO after SAVE (z/OS 1.9)

- Allows reversal of edit changes made prior to SAVE commands during the current edit session
- New KEEP option added to the edit SETUNDO command
  - Syntax:

```

>>---SETUNDO-----+--STORAGE--+
                    +-----+
                    +-SETU-----+ +-RECOVER-|
                    +-ON-----|
                    +-OFF-----|
                    +-KEEP-----+
  
```

•Where:

- KEEP** Has the same effect as **STORAGE** and also prevents the SAVE command from clearing the UNDO buffers in storage

## Other Edit Enhancements. . .

### ■ Multiple Targets for MOVE/COPY (z/OS 1.10)

- Suffix of K (keep) can now be used with MOVE/COPY destination line commands **A**, **B**, **O** and **OO**
  - Enter **AK**, **BK**, **OK**, or **OOK** line commands to indicate a multiple target MOVE/COPY command
  - Enter 'final' destination line command (**A**, **B**, **O** or **OO**) to initiate the 'multiple target' MOVE/COPY
  - 'Final' destination must be after the line where the **AK**, **BK**, **OK**, or **OOK** command was entered

## Other Edit Enhancements. . .

### ▪ New Edit Line Commands for HEX Display (z/OS 1.11)

- New edit line commands to display selected lines in hexadecimal format:

**HX**                      display a single line in hexadecimal format

**HXX**                     display a block of lines in hexadecimal format

- The **HX** and **HXX** line commands act as a toggle by switching a line's display format between normal and hexadecimal format

## Connect Without GUI

### ▪ SETTINGS

- Workstation pulldown (or **GUIINIT**)
  - Workstation connection
  - Without GUI display
- Allows workstation commands
  - **FILEXFER**
  - Edit on workstation
  - **SELECT WSCMD**



## z/OS UNIX Directory List Utility. . .

- Primary commands available:
  - **EDIT** - edit a file in the current directory
  - **FIND** - find a string within a filename
  - **LEFT** - scroll the directory list columns to the left
  - **LOCATE** - locate a directory list entry based on the sort order
  - **REFRESH** - redisplay directory list with any changes that have occurred
  - **RESET** - redisplay list removing line commands and messages
  - **RIGHT** - scroll the directory list columns to the right
  - **SAVE** - write the directory list data to a data set
  - **SORT** - sort the directory list by the specified fields

## z/OS UNIX Directory List Utility. . .

- Line commands available:
 

<ul style="list-style-type: none"> <li>▪ <b>E</b> - edit a file</li> <li>▪ <b>B</b> - browse a file</li> <li>▪ <b>N</b> - create a new file</li> <li>▪ <b>L</b> - list a directory</li> <li>▪ <b>D</b> - delete a file</li> <li>▪ <b>R</b> - rename a file</li> <li>▪ <b>V</b> - view a file (z/OS 1.9)</li> <li>▪ <b>EA</b> - ASCII edit (z/OS 1.9)</li> <li>▪ <b>VA</b> - ASCII view (z/OS 1.9)</li> <li>▪ <b>RA</b> - REFLIST Add (z/OS 1.10)</li> <li>▪ <b>FS</b> - File System (z/OS 1.11)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>CO</b> - copy data out</li> <li>▪ <b>CI</b> - copy data in</li> <li>▪ <b>I</b> - display attributes</li> <li>▪ <b>MM</b> - modify mode fields</li> <li>▪ <b>MX</b> - modify extended attributes</li> <li>▪ <b>X</b> - execute a command</li> <li>▪ <b>MO</b> - Modify Owner (z/OS 1.11)</li> <li>▪ <b>MG</b> - Modify Group (z/OS 1.11)</li> <li>▪ <b>MF</b> - Modify Format (z/OS 1.11)</li> <li>▪ <b>UA</b> - User Auditing (z/OS 1.11)</li> <li>▪ <b>AA</b> - Auditor Auditing (z/OS 1.11)</li> </ul>
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## z/OS UNIX Support Enhancements. . .

### ■ Use ISPF Edit and Browse for z/OS UNIX Files (z/OS 1.9)

- Edit/View/Browse **"Other"** Data Set Name fields support entry of z/OS UNIX pathnames
  - z/OS UNIX Directory List displayed when pathname for directory entered in the **"Other"** Data Set Name field
- z/OS UNIX pathname can be specified as an operand with the following edit primary and macro commands
  - COMPARE**
  - COPY**
  - CREATE**
  - MOVE**
  - REPLACE**
- **BROWSE**, **EDIT**, and **VIEW** services enhanced to support processing of z/OS UNIX files
- **FILEXFER** service enhanced to support the upload and download of z/OS UNIX regular files
- Personal data set lists enhanced to support the saving and retrieval of z/OS UNIX pathnames

## z/OS UNIX Support Enhancements. . .

### ■ Support for Editing ASCII Data (z/OS 1.9)

- ASCII edit automatically invoked for z/OS UNIX files tagged with CCSID 819 (US ASCII)
- ASCII edit can be selected for z/OS UNIX files not tagged by either:
  - Selecting the **Edit ASCII data** option on the Edit/View Entry panel
  - Using the z/OS UNIX Directory List Utility (option 3.17) **EA** line command
- File tagged with CCSID of 819 when saved
- ASCII edit available with the EDIT and VIEW services by using the new **ASCII** keyword parameter

## New UDLIST Command – z/OS 1.10

- Used to display a z/OS UNIX Directory List (option 3.17) from any command line

Syntax: **UDLIST** [*personal\_list\_name* | *pathname*]

- If a personal list name is provided, a directory list will be built based on the pathname entries in the list
- Alternatively, the pathname for a directory can be specified
  - but most command lines are CAPS(ON) – cannot enter mixed-case pathnames
- If no parameter is specified with the **UDLIST** command a popup displays:

```

ISRPUDLB          Personal Data Set Lists for UDLIST          List 1 of 7
Command ---->          Scroll ----> CSR-
Specify the pathname for a z/OS UNIX directory:
Name .....
Or select a personal data set list as a filter for UDLIST:
Name      Description          Created      Referenced
- REF LIST      Last 30 referenced data sets  08/06/10    08/07/17 12:21
- OS2GMLIB      OS/2 GMLIB                   08/06/10    08/06/10 14:10
- UNIXMDIRK     UNIX work files               07/05/11    08/02/20 13:54
- UNIXISPF     UNIX Development Files/DSs   07/08/22    08/02/20 13:51
- URKST11      07/05/22 07/08/22 15:16
- UDLIST1      07/05/11 07/08/22 15:16
- DEMO        ISPF Demo List (SHARE)      05/08/09    07/08/22 15:16
**End**
  
```

- Popup allows user to:
  - enter a mixed-case pathname
  - select a personal list

## Directory List Enhancements – z/OS 1.11

- z/OS UNIX commands can be entered in the command field on the z/OS UNIX Directory List panel

- Requires option **“Enter z/OS UNIX commands in Command field”** to be selected on the directory list options panel
- Entering a / (forward slash) in the command field displays a panel with a command field 255 characters in length

- Default line commands can be defined for different file types

- Default line command is processed when the cursor is placed in the line command field and the ENTER key is pressed

- IBM-supplied default line commands:

```

Directory          L (List)
Regular file       B (Browse)
Character special  I
FIFO               I
Symbolic link     I
  
```

- User can change default line commands on the **“z/OS UNIX Directory List Default Line Commands”** panel available from the **Options** pull-down

## Using Multiple Screens

- ISPF allows up to 32 synchronously multi-tasking screens under one ISPF session
- Create new logical screens using:
  - **SPLIT [NEW]** command
    - reposition horizontal line separating 2 screens on 3270 display
    - new logical screen created when **NEW** specified
  - **START** command
    - creates new logical screen with different "initial dialog"

```
START PANEL(panel) | PGM(program) | CMD(command)
  [select_parameters]
  | ISPF_command
  | primary_option_menu_option
```
- Navigate screens using:
  - **SWAP [LIST | PREV | NEXT | screen name | n]** command
  - ISPF Task List panel (invoked using **SWAP LIST** command)

## ISPF Task List - Swap List Command

ISPF Task List  
Active ISPF Logical Sessions

• Start a new screen  
• Start a new application  
Application Name

ID	Name	Panelid	Applid	Session Type
1	DSL1ST	ISRUDSLO	ISR	3270
2	EDIT	ISREDDE2	ISR	3270
3	WORK	ISRWORK	ISR	3270
4-	DTEST	ISPYXD1	ISR	3270
5*	SCLM	FLMDMN	ISR	3270

Annotations:

- Screen names: points to the 'Name' column.
- "Other" screen: points to the 'ID' column.
- Current screen: points to the 'ID' column of the selected row (5\*).
- Panelid and Applid: points to the 'Panelid' and 'Applid' columns.

## SWAPBAR – z/OS 1.10

- Simplifies the task of swapping between ISPF logical screens
- Displays at the bottom of the physical screen point-and-shoot fields associated with each logical screen for the session
  - Use the point-and-shoot field to invoke the associated logical screen
    - Tip: Customize your terminal emulator to make the action of clicking the mouse to simulate:
      - 1) placing the cursor
      - 2) Pressing the ENTER key
- Enabled using the new SWAPBAR system command

Syntax: **SWAPBAR [ON|OFF]**

## Display System and User Id – z/OS 1.7

- New ISPF command provided which allow the system name and/or user ID to be displayed on all ISPF panels
  - **SYSNAME [ON|OFF]** - Display | Remove system name
  - **USERID [ON|OFF]** - Display | Remove user ID

```

Menu RefList RefMode Utilities Workstation Help
-----
TSD1 VANDYKE Edit Entry Panel
Command ==>

ISPF Library:
Project . . . . PDFIDEV
Group . . . . INT . . . . SVT
Type . . . . GML
Member . . . . (Blank or pattern for member selection list)

Other Partitioned, Sequential or VSAM Data Set:
Data Set Name . . . .
Volume Serial . . . . (If not cataloged)

Workstation File:
File Name . . . .

Options
- Confirm Cancel/Move/Replace
- Mixed Mode
- Edit on Workstation
/ Preserve VB record length

```

## ISPF Client Gateway - ISPF from the Internet

- The Gateway provides an interface for client (and z/OS UNIX) applications to run TSO and ISPF commands and services
- Runs in z/OS UNIX and is invoked upon a request for a TSO or ISPF command
  - TSO address space established
  - If an ISPF command is requested
    - ISPF data sets are allocated and an ISPF session is established
- Command requests and command output in XML format
- Gateway IVP provides a web page for entering TSO and ISPF commands
  - /usr/lpp/ispf/bin/ISPZIVP.html
  - /usr/lpp/ispf/bin/ISPZIVP.cgi
- Shipped with z/OS 1.10
  - Backfitted to z/OS 1.8 and 1.9 (APAR OA27190)

## ISRDDN Utility

- Fullscreen display of DD allocations
- Build a member list based on a DD
- Invocation: **SELECT PGM (ISRDDN)** - DDLIST command

```

Command ==> _____ Row 11 of 214
Current Data Set Allocations Scroll ==> CSR
Volume Disposition Act DDname Data Set Name Actions: B E V M F C I Q
MVS8WD SHR,KEEP > - ISPILIB PDFTDEV.VANDYKE.GIF
MVS8WL SHR,KEEP > - PDFTDEV.STG.GIF
MVS8WI SHR,KEEP > - PDFTDEV.INT.GIF
MVS8WK SHR,KEEP > - PDFTDEV.SVT.GIF
DHTCRT SHR,KEEP > - ISPLLIB VANDYKE.LOADLIB
MVS4W3 SHR,KEEP > - WDBDEV.LOAD
MVS8WK SHR,KEEP > - PDFTDEV.VANDYKE.LOAD
MVS8WF SHR,KEEP > - PDFTOOL.COMMON.LOAD
MVS8WF SHR,KEEP > - PDFTDEV.STG.LOAD
MVS8WH SHR,KEEP > - PDFTDEV.INT.LOAD
MVS8WD SHR,KEEP > - PDFTDEV.SVT.LOAD
MVS8WL SHR,KEEP > - PDFTOOL.FLMSCAN.LOAD
S13L8R SHR,KEEP > - SYS1.DFQLLIB
S13L8R SHR,KEEP > - SYS1.DGTLIB
MVS8WD SHR,KEEP > - ISPLLIB PDFTDEV.VANDYKE.MSGGEN
MVS8WD SHR,KEEP > - PDFTOOL.COMMON.MSGS
MVS8WD SHR,KEEP > - PDFTDEV.STG.MSGGEN
MVS8WJ SHR,KEEP > - PDFTDEV.INT.MSGGEN
  
```

- Browse (B), Edit (E), View (V), Free the entire DD (F), Compress a PDS (C), Provide additional data set information (I), Display list of users of jobs using a data set (Q)

## ISRDDN - Primary Commands

### MEMBER *name* [*string*]

- scans allocations for a particular member
- *string* restricts the search to DDs with *string* in their name.
- Uses CSVQUERY to locate load modules

```

Current Data Set Allocation
Command ==>
Member was found
Scroll ==> CSR

Message      Act DDname  Data Set Name  Actions: B E V M F C I Q
> _ ISPLIB   PDFTDEV.VANDYKE.GIF
> _         PDFTDEV.STG.GIF
> _         PDFTDEV.INT.GIF
> _         PDFTDEV.SVT.GIF
> _ ISPLLIB  VANDYKE.LOADLIB
> _         WDBDEV.LOAD
> _         PDFTDEV.VANDYKE.LOAD
> _         PDFTOOL.COMMON.LOAD
Member: ISPSUBS
> _         PDFTDEV.STG.LOAD
> _         PDFTDEV.INT.LOAD
Member: ISPSUBS
> _         PDFTDEV.SVT.LOAD
> _         PDFTOOL.FLM@SCAN.LOAD
> _         SYS1.DFQLLIB
> _         SYS1.DGTLLIB
> _ ISPLLIB  PDFTDEV.VANDYKE.MSGGEN
> _         PDFTOOL.COMMON.MSGS
> _         PDFTDEV.STG.MSGGEN
> _         PDFTDEV.INT.MSGGEN
  
```

### ONLY *string* | EXCLUDE *string*

- to show or exclude DDs with *string* in their name

## ISRDDN - Primary Commands...

### SEARCH *name*

- Same as **MEMBER** but does not search DD's

### LOAD *name*

- Explicitly loads a module
- Uses ISPLLIB if available
- Browses result

### APF, LINKLIST (LI), PARMLIB, LPA (LP)

- toggle commands to add/remove pseudo-DD names
- show the defined -
  - APF data sets
  - link-list data sets
  - PARMLIB data sets
  - LPA data sets

## ISRDDN - Primary Commands...

- **CLIST**
  - creates a allocation CLIST in '**prefix.ISRDDN.CLIST**'
- **COUNT [string]**
  - counts the number of members in PDSs
- **DUP**
  - searches all the PDSs in the displayed list and LPA
  - displays list of duplicate names
- **ENQ**
  - Enqueues on system
- **CON**
  - Enqueue contention

## ISRDDN - Browse of Control Blocks

- **BROWSE STORAGE**
    - **SEQUENTIAL FILE**
      - Allocated to DDNAME ISRDDN
      - Fixed or VB
      - Max length of 230
        - ◆ First string on line is control block name
      - Second string is locator string
      - Everything else ignored
- |             |                |                               |
|-------------|----------------|-------------------------------|
| <b>ASCB</b> | <b>CVT?+C?</b> | <b>Addr space control blk</b> |
| <b>CVT</b>  | <b>10.?</b>    | <b>Comm Vector Table</b>      |
| <b>TCB</b>  | <b>CVT??</b>   | <b>Task Control Block</b>     |
- Disassembly support available with z/OS 1.9

**NOTE:** ISRDDN is now documented in the [ISPF User's Guide Volume I](#)

## User Command Tables

- ISPF supports up to 3 user command tables (z/OS 1.5)
  - APPLID for User command tables are defined in the ISPF configuration table
  - Searched before Site and System command tables
- Many sites now define USER as the APPLID for a User command table
  - Speak to your systems programmer if your site does not
  - Allows users to define their own ISPF commands
  - User command table saved in a personal table data set in the ISPTLIB DD concatenation
- Creating and updating user command tables
  - Option 3.9 can be used to create a user command table
    - Requires table data set allocated to the ISPTABL DD
  - Option 3.9 cannot update a user command table if it is open to your ISPF session
    - Copy table to another member; use option 3.9 to update new member; copy updated member back
    - With z/OS 1.9, use option 3.16 (ISPF Table Utility)

## AUTOTYPE Function - z/OS 1.2

- AUTOTYPE function resolves a partial name in a panel **Library** or **Other Data Set Name** field
  - searches catalog or PDS directory to find names that match
- Most effective when assigned to a PF key
- Retrieves a maximum of 100 data set names and 700 member names
- Only available on panels enabled for AUTOTYPE
  - applications can use AUTOTYPE by making minor panel changes
  - DTL provides AUTOTYPE support

## ISRDTLCV Macro

- Shipped in SISPEXEC library
- Converts the non-displayable characters in panel output from the DTL Conversion Utility (ISPD TLC) to editable characters
- Issue `ISRDTLCV` on edit command line of generated panel

## Calendar Notebook

- `&ZKIT = LO`
  - Set in Primary Menu
  - Allows TBDISPL dialog for Calendar view
    - Keeps 15 lines of data for day selected
    - Day is highlighted to indicate note