



ISPF productivity to Rational Developer for System Z, from the eyes of a COBOL developer



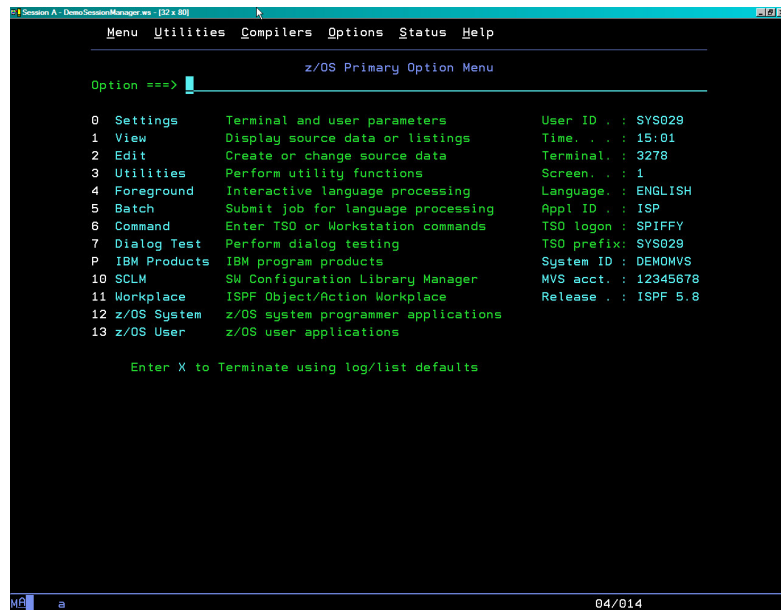
Traditional code running fortune 500 IT shops

- COBOL is still very Active:
 - ▶ An Estimated 5 billion new lines added per year. (TSG Inc.)
 - ▶ 75% of business data is processed in COBOL (Gartner).
 - ▶ There are 180 billion to 200 billion lines of COBOL in use worldwide (Gartner).
 - ▶ 15% of new applications are written in COBOL (Gartner).
 - ▶ "Replacement costs for COBOL systems, estimated at \$25 per line, are in the hundreds of billions of dollars" (Tactical Strategy Group).
 - ▶ COBOL applications process over 80% of all daily business transactions and mainframe platforms store 70% of the all the data

- PL/I is similar but around 25% of the COBOL values above



GREEN TO GUI



Session A - DemoSessionManager ws - [32 x 80]

Menu Utilities Compilers Options Status Help

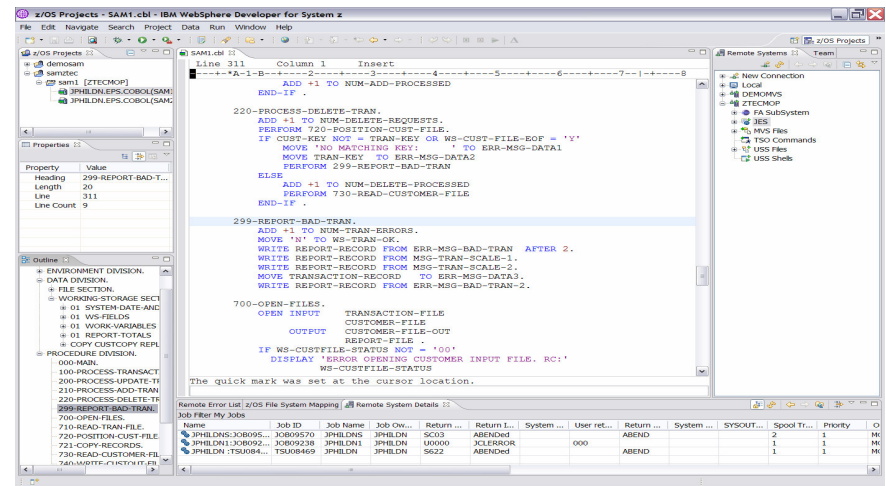
z/OS Primary Option Menu

Option ==>

0	Settings	Terminal and user parameters	User ID . . : SYS029
1	View	Display source data or listings	Time . . . : 15:01
2	Edit	Create or change source data	Terminal . : 3278
3	Utilities	Perform utility functions	Screen . . : 1
4	Foreground	Interactive language processing	Language . : ENGLISH
5	Batch	Submit job for language processing	Appl ID . . : ISP
6	Command	Enter TSO or Workstation commands	TSO logon . : SPIFFY
7	Dialog Test	Perform dialog testing	TSO prefix : SYS029
P	IBM Products	IBM program products	System ID . : DEMOMVS
10	SCLM	SM Configuration Library Manager	MVS acct. . : 12345678
11	Workplace	ISPF Object/Action Workplace	Release . . : ISPF 5.8
12	z/OS System	z/OS system programmer applications	
13	z/OS User	z/OS user applications	

Enter X to Terminate using log/list defaults

04/014



z/OS Projects - SAM1.cbl - IBM WebSphere Developer for System z

```
Line 311 Column 1 Insert
-----YA-1-B-----2-----3-----4-----5-----6-----7-----8
END-IF .
220-PROCESS-DELETE-TRAN.
  ADD #1 TO NUM-DELETE-REQUESTS.
  PERFORM 720-POSITION-CUST-FILE.
  IF CUST-KEY NOT = TRAN-KEY OR WS-CUST-FILE-EOF = 'Y'
    MOVE 'NO MATCHING KEY!' TO ERR-MSG-DATA1
    MOVE TRAN-KEY TO ERR-MSG-DATA2
    PERFORM 299-REPORT-BAD-TRAN
  ELSE
    ADD #1 TO NUM-DELETE-PROCESSED
    PERFORM 730-READ-CUSTOMER-FILE
    END-IF .
299-REPORT-BAD-TRAN.
  ADD #1 TO NUM-TRAN-ERRORS.
  MOVE 'N' TO WS-TRAN-OK.
  WRITE REPORT-RECORD FROM ERR-MSG-BAD-TRAN AFTER 2.
  WRITE REPORT-RECORD FROM MSG-TRAN-SCALE-1.
  WRITE REPORT-RECORD FROM MSG-TRAN-SCALE-2.
  MOVE TRANSACTION-RECORD TO ERR-MSG-DATA3.
  WRITE REPORT-RECORD FROM ERR-MSG-BAD-TRAN-2.
700-OPEN-FILES.
  OPEN INPUT TRANSACTION-FILE
  CUSTOMER-FILE
  OUTPUT CUSTOMER-FILE-OUT
  REPORT-FILE.
  IF WS-CUSTFILE-STATUS NOT = '00'
    DISPLAY 'ERROR OPENING CUSTOMER INPUT FILE. RC:'
    WS-CUSTFILE-STATUS
The quick mark was set at the cursor location.
```

ISPF TO ECLIPSE

■ ISPF

- ▶ 20 – 30 Years experience
 - Less staff more workload – how to get faster
 - New staff – how to get 20 yrs experience in 2 months
 - **Solution ISPF Productivity Tool**

■ Eclipse

- ▶ Cross platform developers
 - New COBOL staff quickly productive
 - Java staff can program COBOL
 - Cross develop Java, COBOL, PL1 with continuous format
 - **Solution RDz**





IBM ISPF Productivity Tool



IBM ISPF Productivity Tool Functional Overview

- Enhances ISPF Productivity
 - ▶ Consolidates commands within a single panel
 - ▶ Presents a comprehensive, object-oriented project- related list of data sets
 - ▶ Reduces Keystrokes and EXCP counts
 - ▶ Provides Extensive Point & Shoot capabilities
 - ▶ Extended TSO command execution
 - ▶ Automatic PDS compression and Directory Expansion
 - ▶ Enhanced Print and Clipboard Capabilities
 - ▶ Improves ISPF navigation
 - ▶ SCLM, Librarian, Panvalet Library support
 - ▶ Enhanced patterns for finding data
 - ▶ Powerful Command Shortcuts **NEW V5.9 !!**



DSLISIT ISPF 3.4

Menu Utilities Compilers Options Status Help

z/OS Primary Option Menu

Option ==> 3.4

0	Settings	Terminal and user parameters	User ID . . :	DNET187
1	View	Display source data or listings	Time. . . :	13:53
2	Edit	Create or change source data	Terminal. :	3278
3	Utilities	Perform utility functions	Screen. . :	1
4	Foreground	Interactive language processing	Language. :	ENGLISH
5	Batch	Submit job for language processing	Appl ID . :	ISP
6	Command	Enter TSO or Workstation commands	TSO logon :	SPIFFY
7	Dialog Test	Perform dialog testing	TSO prefix:	DNET187
P	IBM Products	IBM program products	System ID :	DEMOMVS
10	SCLM	SW Configuration Library Manager	MVS acct. :	12345678
11	Workplace	ISPF Object/Action Workplace	Release . :	ISPF 5.8
12	z/OS System	z/OS system programmer applications		
13	z/OS User	z/OS user applications		

Enter X to Terminate using log/list defaults

IPT fits seamlessly into ISPF

Customization of functions can be controlled
at the Global or User level.



IPT - DS List Panel

IPT Adds New Options
And Functions in V5.9

```

-IPT-                               Data Set List Utility
Command ==> █
  DS - Display dataset list          P - Print data set list
blank - Temporary Object List       PV - Print VTOC information
  PL - Permanent Object List        V - Display VTOC information
  GDG - Display Generation Datasets XV - Extended VTOC & space summary
  SET - Set DSLIST defaults         SP - Special data set lists
  
```

```

Enter an option or select it by placing cursor on the option code
Specify parameters below:
  Object List   ==> _____ (* for selection list, = for PROJECT1)
  Dsname Level ==> DNET187.* More? ==> N
  Volume serial ==> _____ (Leave BLANK for catalog scan,
                               volser or pattern for VTOC scan)
  
```

```

Data set list options:
  Initial View ==> 3 : 1. Volume 2. Space 3. Attrib 4. Total
  
```

```

Enter "/" to select option: / Confirm Data Set Delete
                          / Additional Dataset Qualifiers
                          / Display Catalog Name
  
```



List Multiple Qualifiers
List all saved Object List
List Linklist and TSO Allocations

```

When the list is displayed, enter the "/" line command for a
TSO commands, CLISTS, or REXX execs are
  
```

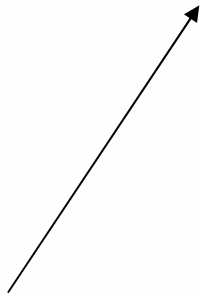
DSLIST in OLIST (Object List) Format

```
-IPT- OLIST (E) ----- LEVEL DNET187.* ----- "A" will display assist
Command      ==>                                     SCROLL ==> PAGE
                                                    *TEMPORARY LIST*
```

Command	Member	Numbr	Data Set Names / Objects	Volume
		1	'DNET187.ABX.DB2UTDST'	DMPU24
		2	'DNET187.ABX.DB2UTSRC'	DMPU29
		3	'DNET187.ABX.ISPFILE'	DMPU11
		4	'DNET187.ABX.JCL'	DMPU26
		5	'DNET187.ABX.REQLIB'	DMPU26
		6	'DNET187.ABX.TEMP.D070504.T152738.CMD'	DMPU26
		7	'DNET187.ABX.TEMP.D070504.T152738.CORR'	DMPU24
		8	'DNET187.ABX.TEMP.D070504.T152738.LOG'	DMPU18
		9	'DNET187.ABX.TEMP.D070504.T152738.LOG2'	DMPU19
		10	'DNET187.ABX.TEMP.D070504.T152738.ORG'	DMPU18
		11	'DNET187.ABX.TEMP.D070504.T152738.XML'	DMPU26
		12	'DNET187.ABX.TEMP.D070524.T123650.CMD'	DMPU04
		13	'DNET187.ABX.TEMP.D070524.T123650.CORR'	DMPU18
		14	'DNET187.ABX.TEMP.D070524.T123650.LOG'	DMPU01
		15	'DNET187.ABX.TEMP.D070524.T123650.LOG2'	DMPU24
		16	'DNET187.ABX.TEMP.D070524.T123650.ORG'	DMPU29
		17	'DNET187.ABX.TEMP.D070524.T123650.XML'	DMPU08
		18	'DNET187.ABX.TMPFB'	DMPU26

Perform Utility Functions
 Compress Datasets
 Add Directory Blocks
 Find Text
 Find Members

Numbered List
 For quick access



Select Dataset using Reference Number

```
-IPT- OLIST (E) ----- LEVEL DNET187.* ----- Row 37 to 54 of 593
Command   ==> 43 █
Open list ==> DNET187 (or BLANK for reference list)
          SCROLL ==> PAGE
```

Command	Member	Numbr	Data Set Names / Objects	Volume
		37	'DNET187.ADLAB.DTLOG'	
		38	'DNET187.ADLAB.DTPREF'	
		39	'DNET187.ADLAB.DTSF'	
		40	'DNET187.ADLAB.EQALANGX'	
		41	'DNET187.ADLAB.FILES'	
		42	'DNET187.ADLAB.INSTALL'	
		43	'DNET187.ADLAB.JCL'	
		44	'DNET187.ADLAB.LISTING'	
		45	'DNET187.ADLAB.LOAD'	
		46	'DNET187.ADLAB.LOAD2'	
		47	'DNET187.ADLAB.SOURCE'	
		48	'DNET187.ADLAB.SYSDEBUG'	
		49	'DNET187.ADLAB.TEMPLATE'	
		50	'DNET187.ADLAB.VIEW'	
		51	'DNET187.AHARE.PDS'	
		52	'DNET187.AM.DEMOMVS.DNET187X.D2005061.T092855'	
		53	'DNET187.AM.DEMOMVS.DNET187X.JF96BMVE'	
		54	'DNET187.APA.COBOLST'	

Save Keystrokes
No need to Tab

Edit of PDS selected

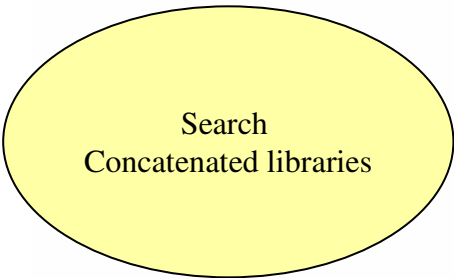
```
-IPT--EDIT L1----- DNET187.ADLAB.JCL ----- "A" will display assist
COMMAND ==>                                SCROLL ==> PAGE
```

NAME	RENAME	LIB	VV.MM	CREATED	CHANGED	ON VOLUME	DMPU07	SIZE	INIT	MOD	USERID
\$JOB		1									
APAXX		1	01.01	07/06/27	07/06/27 13:08			67	67	0	DNET187
BADSTAT		1	01.00	07/05/24	07/05/24 08:52			36	36	0	DNET187
BAPAAPI		1									
BASAM1		1									
BASAM1DR		1	01.00	07/05/31	07/05/31 13:34			37	37	0	DNET187
BATCDEMO		1									
BATM01		1									
BCOBTIMS		1									
BCOBVSAM		1									
BCPROG		1									
BC01		1									
BDTDEMO		1									
BLABONE		1									
BLABTWO		1									
BPLILAN		1									
BPLIMVS		1									
BPTM01		1									
BSAM1		1									
BSAM2		1									

FindText Command (FT)

```
-IPT- OLIST (E) ----- LEVEL DNET187.* ----- "A" will display assist
Command    ==> ft adlab.load █ SCROLL ==> PAGE
Open list  ==> DNET187 (or BLANK for reference list)
```

Command	Member	Numbr	Data Set Names / Objects	Volume
		1	'DNET187.ABX.DB2UTDST'	
		2	'DNET187.ABX.DB2UTSRC'	
		3	'DNET187.ABX.ISPFILE'	
		4	'DNET187.ABX.JCL'	
		5	'DNET187.ABX.REQLIB'	
		6	'DNET187.ABX.TEMP.D070504.T152738.CMD'	
		7	'DNET187.ABX.TEMP.D070504.T152738.CORR'	
		8	'DNET187.ABX.TEMP.D070504.T152738.LOG'	
		9	'DNET187.ABX.TEMP.D070504.T152738.LOG2'	
		10	'DNET187.ABX.TEMP.D070504.T152738.ORG'	
		11	'DNET187.ABX.TEMP.D070504.T152738.XML'	
		12	'DNET187.ABX.TEMP.D070524.T123650.CMD'	
		13	'DNET187.ABX.TEMP.D070524.T123650.CORR'	
		14	'DNET187.ABX.TEMP.D070524.T123650.LOG'	
		15	'DNET187.ABX.TEMP.D070524.T123650.LOG2'	
		16	'DNET187.ABX.TEMP.D070524.T123650.ORG'	
		17	'DNET187.ABX.TEMP.D070524.T123650.XML'	
		18	'DNET187.ABX.TMPFB'	



Searched 41 datasets to Find Selected Text

```
-IPT- OLIST (E) ----- LEVEL DNET187.* ----- Row 41 to 58 of 593
Command      ==> █ SCROLL ==> PAGE
Open list    ==> DNET187 (or BLANK for reference list)
```

Command	Member	Numbr	Data Set Names / Objects	Volume
-TXT FND-	SYSTSIN	41	'DNET187.ADLAB.FILES'	DMPU12
		42	'DNET187.ADLAB.INSTALL'	
		43	'DNET187.ADLAB.JCL'	
		44	'DNET187.ADLAB.LISTING'	
		45	'DNET187.ADLAB.LOAD'	
		46	'DNET187.ADLAB.LOAD2'	
		47	'DNET187.ADLAB.SOURCE'	
		48	'DNET187.ADLAB.SYSDEBUG'	
		49	'DNET187.ADLAB.TEMPLATE'	
		50	'DNET187.ADLAB.VIEW'	
		51	'DNET187.AHARE.PDS'	
		52	'DNET187.AM.DEMOMVS.DNET187X.D2005061.T092855'	
		53	'DNET187.AM.DEMOMVS.DNET187X.JF96BMVE'	
		54	'DNET187.APA.COBOLST'	

Positioned at Member

Found in SYSTSIN --> LIB('YOUR-TSO-ID.ADLAB.LOAD') -

Preview

58 'DNET187.APA.REPORT'

Member Find Command (MEMF)

```
-IPT- OLIST (E) ----- LEVEL DNET187.* ----- "A" will display assist
Command    ==> memf atcdem5
Open list  ==> DNET187 (or BLANK for reference list)
                                SCROLL ==> PAGE
```

Command	Member	Numbr	Data Set Names / Objects	Volume
		1	'DNET187.ABX.DB2UTDST'	
		2	'DNET187.ABX.DB2UTSRC'	
		3	'DNET187.ABX.ISPFILE'	
		4	'DNET187.ABX.JCL'	
		5	'DNET187.ABX.REQLIB'	
		6	'DNET187.ABX.TEMP.D070504.T152738.CMD'	
		7	'DNET187.ABX.TEMP.D070504.T152738.CORR'	
		8	'DNET187.ABX.TEMP.D070504.T152738.LOG'	
		9	'DNET187.ABX.TEMP.D070504.T152738.LOG2'	
		10	'DNET187.ABX.TEMP.D070504.T152738.ORG'	
		11	'DNET187.ABX.TEMP.D070504.T152738.XML'	
		12	'DNET187.ABX.TEMP.D070524.T123650.CMD'	
		13	'DNET187.ABX.TEMP.D070524.T123650.CORR'	
		14	'DNET187.ABX.TEMP.D070524.T123650.LOG'	
		15	'DNET187.ABX.TEMP.D070524.T123650.LOG2'	
		16	'DNET187.ABX.TEMP.D070524.T123650.ORG'	
		17	'DNET187.ABX.TEMP.D070524.T123650.XML'	
		18	'DNET187.ABX.TMPFB'	



Results of MEMF Command

```

-IPT- OLIST (E) ----- LEVEL DNET187.* -----
Command    ==> 44
Open list  ==> DNET187 (or BLANK for reference list)
  
```

44 Datasets searched !!!
 Use # to reference
 Member

Command	Member	Numbr	Data Set Names / Objects	Volume
--FOUND--	ATCDEM5	44	'DNET187.ADLAB.LISTING'	DMPU08
		45	'DNET187.ADLAB.LOAD'	
		46	'DNET187.ADLAB.LOAD2'	
		47	'DNET187.ADLAB.SOURCE'	
		48	'DNET187.ADLAB.SYSDEBUG'	
		49	'DNET187.ADLAB.TEMPLATE'	
		50	'DNET187.ADLAB.VIEW'	
		51	'DNET187.AHARE.PDS'	
		52	'DNET187.AM.DEMOMVS.DNET187X.D2005061.T092855'	
		53	'DNET187.AM.DEMOMVS.DNET187X.JF96BMVE'	
		54	'DNET187.APA.COBOLST'	
		55	'DNET187.APA.COPY'	
		56	'DNET187.APA.DATA'	
		57	'DNET187.APA.JCL'	

IQIP1030 Member ATCDEM5 found in 'DNET187.ADLAB.LISTING'

61 'DNET187.BOM.CHANGED.OLD'



Browse Result of Member Find

```

-IPT- EDIT DNET187.ADLAB.LISTING(ATCDEM5) - 01.00          Columns 00001 00072
Command ==>                  Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
000001 1PP 5655-G53 IBM Enterprise COBOL for z/OS 3.4.1
000002 0Invocation parameters:
000003 TEST (ALL, SYM, SEPARATE), LIST, MAP, SOURCE, XREF, LIB, DYNAM, NORENT, NOOPT, NOSS
000004 0Options in effect:
000005      NOADATA
000006      ADV
000007      QUOTE
000008      ARITH (COMPAT)
000009      NOAWO
000010      BUFSIZE (4096)
000011      NOCICS
000012      CODEPAGE (1140)
000013      NOCOMPILE (S)
000014      NOCURRENCY
000015      DATA (31)
000016      NODATEPROC
000017      DBCS
000018      NODECK
000019      NODIAGTRUNC

```

Member Selection List (MSL)

- Additional commands available reducing panel navigation
- Powerful Global Find/Change and Find Text Commands
 - ▶ **Supports Concatenations**
- Dynamic PDS Compression and PDS Directory Expansion
- Supports SCLM, Librarian, Panvalet



MSL Member Select List with (A) Assist on Available in PDS or PDSE

```
-IPT--EDIT L1----- DNET187.ADLAB.JCL -----ROW 00001 OF 00078
COMMAND ==> █ SCROLL ==> PAGE
```

ON VOLUME DMPU07

NAME	RENAME	LIB	VV.MM	CREATED	CHANGED	SIZE	INIT	MOD	USERID
\$JOB CARD									
APAXX									
BADSTAT									
BAPAAPI									
BASAM1									
BASAM1DR									
BATCDEMO									
BATM01									
BCOBTIMS									
BCOBVSAM									
BCPROG									
BC01									
BDTDEMO									
BLABONE									
BLABTWO									
BPLILAN									
BPLIMVS									
BPTM01									
BSAM1									
BSAM2									

```
-----Assist-----
----- -IPT- MSL MAIN COMMANDS -----
Assist COMPRESS CONFIRM DEFault DSName EXCLude
EXIT EXPDIR FILTER Find FindText FLIP
Global INFO LIB LMAP Locate PROJect
QUIT REFRESH RELEase RESet RFind SAVE
SCLm SCLMPARM SET SORT SSI STATS
SUBmit TAG TAILOR TOTALS TYPE UNFilter
USAGE VLF WHERE XFER

----- -IPT- MSL LINE COMMANDS -----
B (browse) C (copy) D (Delete) E (edit) H (where)
I (ISPEXEC) J (submit) K (SCLM) L (lmap) M (move)
P (print) R (rename) S (select) T (TSO) V (view)
W (preview) X (exclude) Z (stats)
= (repeat) % (CLIST/REXX call)

control the assist window.
```

Main and Line Commands Available
Reduces Navigation

Results of MSU LMAP Command

LMAP →

NAME	RENAME	LIB	SIZE
1 ADSTAT		+-----	
ASAMDRV			

Obtain Module information
With a command from Member list.

```
-IPT--Module analysis:DNET187.ADLAB.LOAD ----- LINE 00000020 COL 001 080
COMMAND ==>                                     SCROLL ==> PAGE
Commands:Down, End, Find, Up
Member   ==> ADSTAT                               Display mode ==> H (M=Map, H=History)
----- Press END to exit -----
          *****LOAD MODULE PROCESSED EITHER BY VS LINKAGE EDITOR OR BIN
          LISTIDR FOR LOAD MODULE ADSTAT

ADSTAT  MODULE ANALYSIS
          THIS LOAD MODULE CONTAINS NO INFORMATION SUPPLIED BY SP
-----
          THIS LOAD MODULE WAS PRODUCED BY LINKAGE EDITOR 5695PMB01  AT LEVEL 01.
-----

          CSECT          TRANSLATOR          VR.MD
          ADSTAT          5655G5300          34.01          2
          ADSORT          5655G5300          34.01          2
          IGZCBSO          569623400          01.05          2
          PL/X-390          02.03          2
          CEESTART          569623400          01.05          2
          CEEBETBL          569623400          01.05          2
          CEEBLLST          569623400          01.05          2
          CEEBTRM          569623400          01.05          2
          CEEBPUBT          569623400          01.05          2
          CEESG005          569623400          01.05          2
          PL/X-390          02.03          2
```

Clipboard Enhancements

- **Cut And Paste**

- ▶ Supports up to 200 clipboards
- ▶ Named and Numbered clipboards for easy access
- ▶ Clipboards can be saved between sessions



Cut to named clipboard

```

-IPT- EDIT DNET187.APA.JCL (BATCDEMO) - 01.28           Columns 00001 00072
Command ==> CUT TO JOBCARD                         Scroll ==> PAGE
***** Top of Data *****
CC //DNET187C JOB (ACCTG), 'DNET187', CLASS=A, MSGCLASS=H, MSGLEVEL=(1,1),
CC //
000003 //*****
000004 //*
000005 //* BUILD JCL FOR TEST CASE ATCDEMO
000006 //*
000007 //*****
000008 //COMP1 EXEC PGM=IGYCRCTL,
000009 // PARM=( 'OFFSET, LIB, APOST, XREF, MAP, DYNAM, TEST (ALL, SYM, SEP) ' )
000010 //STEPLIB DD DSN=COBOL.V3R3.SIGYCOMP, DISP=SHR
000011 //SYSLIB DD DSN=DNET187.APA.SOURCE, DISP=SHR
000012 //SYSPRINT DD DISP=SHR, DSN=DNET187.CODE.COBOLST (ATCDEMO)
000013 //SYSDEBUG DD DISP=SHR, DSN=DNET187.CODE.SYSDEBUG (ATCDEMO)
000014 //SYSLIN DD DSN=&&TEMOBJ1 (ATCDEMO), DISP=(, PASS), UNIT=SYSDA,
000015 // SPACE=(TRK, (20, 20, 20)), DCB=(BLKSIZE=3120, LRECL=80, DSORG=PO)
000016 //SYSTEM DD DUMMY
000017 //SYSUT1 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000018 //SYSUT2 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000019 //SYSUT3 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000020 //SYSUT4 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000021 //SYSUT5 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))

```

Cut to named or numbered Permanent Clipboards



Clipboard Status Command

```

-IPT- EDIT DNET187.APA.JCL (BATCDEMO) - 01.28                2 to JOBCARD
Command ==> cut sta                                         Scroll ==> PAGE
***** ***** Top of Data *****
000001 //DNET187C JOB (ACCTG), 'DNET187', CLASS=A, MSGCLASS=H, MSGLEVEL=(1,1),
000002 //                REGION=5000K, NOTIFY=DNET187
000003 //*****
000004 //*
000005 //* BUILD JCL FOR TEST CASE ATCDEMO
000006 //*
000007 //*****
000008 //COMP1 EXEC PGM=IGYCRCTL,
000009 // PARM=( 'OFFSET, LIB, APOST, XREF, MAP, DYNAM, TEST (ALL, SYM, SEP) ' )
000010 //STEPLIB DD DSN=COBOL.V3R3.SIGYCOMP, DISP=SHR
000011 //SYSLIB DD DSN=DNET187.APA.SOURCE, DISP=SHR
000012 //SYSPRINT DD DISP=SHR, DSN=DNET187.CODE.COBOLST (ATCDEMO)
000013 //SYSDEBUG DD DISP=SHR, DSN=DNET187.CODE.SYSDEBUG (ATCDEMO)
000014 //SYSLIN DD DSN=&&TEMOBJ1 (ATCDEMO), DISP=(, PASS), UNIT=SYSDA,
000015 // SPACE=(TRK, (20, 20, 20)), DCB=(BLKSIZE=3120, LRECL=80, DSORG=PO)
000016 //SYSTEM DD DUMMY
000017 //SYSUT1 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000018 //SYSUT2 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000019 //SYSUT3 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000020 //SYSUT4 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))
000021 //SYSUT5 DD UNIT=SYSDA, SPACE=(CYL, (1, 1))

```

View all available saved Clipboards



Clipboard Status Results

```
-IPT----- ACTIVE CLIPBOARDS -----
Command ==> █ Scroll ==> CSR
```

```
Command line clipboard selection: 0 to 99 or name
Line commands: B browse C copy E edit P print S select V view
                DEL delete REN rename RES restore SAV save
Press ENTER to process or F3 to cancel.
```

```
5 active clipboards out of 200
Persistent clipboard repository DNET187.ISPF.IPITBLIB
Persistent clipboards marked by *
```

Clip-

Cmd	board	Records	Size	First line of text in clipboard
*..	DEBUG	1	80	// PARM= '/TEST(,,TCP&192.168.1.1%8001:)',
*..	FM	7	80	//FILEMGR EXEC PGM=FMNMAIN
*..	IEBCOPY	13	80	//IEBCOPY EXEC PGM=IEBCOPY,REGION=8M,PARM='CMWA=50
...	JOBCARD	2	133	//DNET187C JOB (ACCTG), 'DNET187',CLASS=A,MSGCLASS=H
*..	SET	2	80	// SET COBOLLIB='COBOL.V3R4.SIGYCOMP' COBOL

Save Frequently used JCL and DD statements and Source code

Paste From Named Clipboard

```

-IPT- EDIT DNET187.APA.JCL (NEWJOB) - 01.01                Columns 00001 00072
Command ==> paste from jobcard                        Scroll ==> PAGE
***** ***** Top of Data *****
b          //*****
000002 //*
000003 //* BUILD JCL FOR TEST CASE ATCDEMO
000004 //*
000005 //*****
000006 //COMP1 EXEC PGM=IGYCRCTL,
000007 // PARM= (' OFFSET, LIB, APOST, XREF, MAP, DYNAM, TEST (ALL, SYM, SEP) ')
000008 //STEPLIB DD DSN=COBOL.V3R3.SIGYCOMP, DISP=SHR
000009 //SYSLIB DD DSN=DNET187.APA.SOURCE, DISP=SHR
000010 //SYSPRINT DD DISP=SHR, DSN=DNET187.CODE.COBOLST (ATCDEMO)
000011 //SYSDEBUG DD DISP=SHR, DSN=DNET187.CODE.SYSDEBUG (ATCDEMO)
000012 //SYSLIN DD DSN=&&TEMOBJ1 (ATCDEMO), DISP= (, PASS), UNIT=SYSDA,
000013 // SPACE= (TRK, (20, 20, 20)), DCB= (BLKSIZE=3120, LRECL=80, DSORG=PO)
000014 //SYSTEM DD DUMMY
000015 //SYSUT1 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000016 //SYSUT2 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000017 //SYSUT3 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000018 //SYSUT4 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000019 //SYSUT5 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000020 //SYSUT6 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))
000021 //SYSUT7 DD UNIT=SYSDA, SPACE= (CYL, (1, 1))

```


Point and Shoot

- **Active from Member Selection List, Object List**
 - ▶ Sort on column headings (MSL)
 - ▶ Sort Titles in Object List

- **Edit, Browse or View Datasets from SDSF, File Manager, Fault Analyzer (Any ISPF application)**
 - ▶ Point and Shoot Dataset in JCL or Output Listings
 - ▶ Point and Shoot Member names in source or JCL



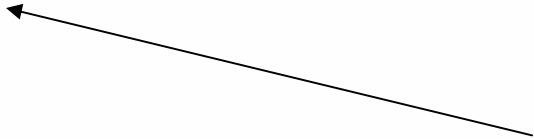
Point and Shoot Dataset Name

Enter Browse ,Edit or View or Set a PF Key

```

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY FM0095B  JOB01703  DSID      3 LINE 39      COLUMNS 02- 81
COMMAND INPUT ==> br                                SCROLL ==> PAGE
      XX* For more information refer to the File Manager Customization *
      XX* Guide. *
      XX* *
      XX*****
3 XXFMN3CICB PROC PROF=
4 XXFM01LOC EXEC PGM=IKJEFT01, DYNAMNBR=100
  DISP=SHR, DSN=FILEMGR.V7R1.SFMNEXEC
  SYSOUT=*
  SYSOUT=*
  IN DD *
  UMMY
  M=IKJEFT01, DYNAMNBR=100
  DISP=SHR, DSN=FILEMGR.V7R1.SFMNMOD1
  DISP=SHR, DSN=FILEMGR.V7R1.SIPVMOD1
  DISP=SHR, DSN=FILEMGR.V7R1.SFMNPENU
  DISP=SHR, DSN=FILEMGR.V7R1.SIPVPENU
  DISP=SHR, DSN=FILEMGR.V7R1.SFMNMENU
  DISP=SHR, DSN=FILEMGR.V7R1.SIPVMENU
  DISP=SHR, DSN=FILEMGR.V7R1.SFMNSLIB
  DISP=SHR, DSN=&PROF
  
```

- Keystrokes to perform this function in
In ISPF without IPT.**
- 1) Highlight the Dataset
 - 2) Edit
 - 3) Copy
 - 4) =1
 - 5) Position Cursor
 - 6) Edit
 - 7) Paste
 - 8) * Add quotes if required
 - 9) Enter



Enhanced TSO Commands

- Supports 999 entries
- Maintains a History and Permanent Command List
- Save permanent list of most frequently used commands for repeat operations
 - ▶ Execute TSO commands from any panel by a reference number

Add Directory Blocks to PDS

```
-IPT--EDIT L1----- DNET187.ADLAB.JCL -----
```

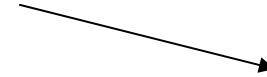
```
COMMAND ==> expdir █
```

```
SCROLL ==> PAGE
```

NAME	RENAME	LIB	VV.MM	CREATED	CHANGED	ON VOLUME	SIZE	DMPU07	INIT	MOD	USERID
\$JOB CARD		1									
APAXX		1	01.01	07/06/27	07/06/27 13:08		67		67	0	DNET187
BADSTAT		1	01.00	07/05/24	07/05/24 08:52		36		36	0	DNET187
BAPAPI		1									
BASAM1		1									
BASAM1DR		1	01.00	07/05/31	07/05/31 13:34		37		37	0	DNET187
BATCDEMO		1									
BATM01		1									
BCOBTIMS		1									
BCOBVSAM		1									
BCPROG		1									
BC01		1									
BDTDEMO		1									
BLABONE		1									
BLABTWO		1									
BPLILAN		1									
BPLIMVS		1									
BPTM01		1									
BSAM1		1									
BSAM2		1									

EXPDIR Command will add Directory Blocks when PDS Directory is full

Library Expanded



```
-IPT--EDIT L1----- DNET187.ADLAB.JCL ----- Library expanded
COMMAND ==> █ SCROLL ==> PAGE
```

NAME	RENAME	LIB	VV.MM	CREATED	CHANGED	ON VOLUME	DMPU07	SIZE	INIT	MOD	USERID
\$JOB CARD		1									
APAXX		1	01.01	07/06/27	07/06/27 13:08			67	67	0	DNET187
BADSTAT		1	01.00	07/05/24	07/05/24 08:52			36	36	0	DNET187
BAPAAPI		1									
BASAM1		1									
BASAM1DR		1	01.00	07/05/31	07/05/31 13:34			37	37	0	DNET187
BATCDEMO		1									
BATM01		1									
BCOBTIMS		1									
BCOBVSAM		1									
BCPROG		1									
BC01		1									
BDTDEMO		1									
BLABONE		1									
BLABTWO		1									
BPLILAN		1									
BPLIMVS		1									
BPTM01		1									
BSAM1		1									
BSAM2		1									

Added 1 block as default
Additional parms available

Library Compression

```
IEC031I D37-04, IFG0554P, DNET187, SPIFFY, ISP04284, 072D, DMPU13, DNET187. JCL. CNTL1  
*** █
```

We have all seen this message when editing a PDS. You would have to cancel your Edit session and go to a utility panel to compress your PDS !!

IPT will position the Compress command on Command and Compress the dataset from your EDIT session

Compress Command added by IPT

```

-IPT- EDIT DNET187.JCL.CNTL1(TEST) - 01.01                Columns 00001 00072
Command ==> COMPRESS                                     Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>                your edit profile using the command RECOVERY ON.
C99999 //DNET187X JOB  (ZACK,81038), 'JOB INFORMATION',
000002 //                CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),
000003 //                NOTIFY=&SYSUID
000004 //*****
000005 //STEP1 EXEC PGM=TRADERB,PARM='/TEST(, INSPIN,)'
000006 //SYSPRINT DD  DISP=OLD,
000007 //STEPLIB  DD  DISP=SHR,
000008 //                DSNAME=DNET047.DEMOS.PDPAK.LOAD
000009 //SYSPRINT DD SYSOUT=*
000010 //SYSPRINT DD SYSOUT=*
000011 //COMPFILE DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000012 //CUSTFILE DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000013 //TRANSACT DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000014 //*****
000015 //REPOUT DD SYSOUT=*
00001
00001 ABEND 0D37: Press ENTER to compress (Jump function disabled).
00001
000019 //TRANREP DD SYSOUT=*

```


Library Compress

```

-IPT- EDIT DNET187.JCL.CNTL1(TEST) - 01.01
Command ==> Library compressed Scroll ==> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000001 //DNET187X JOB (ZACK,81038),'JOB INFORMATION',
000002 // CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),
000003 // NOTIFY=&SYSUID
000004 //*****
000005 //STEP1 EXEC PGM=TRADERB,PARM='/TEST(,INSPIN,)'
000006 //SYSPRINT DD DISP=OLD,
000007 //STEPLIB DD DISP=SHR,
000008 // DSNAME=DNET047.DEMOS.PDPAK.L
000009 //SYSPRINT DD SYSOUT=*
000010 //SYSPRINT DD SYSOUT=*
000011 //COMPFILE DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000012 //CUSTFILE DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000013 //TRANSACTION DD DISP=SHR,DSN=DNET047.DEMOS.PDPAK.COMPFILE
000014 //*****
000015 //REPOUT DD SYSOUT=*
000016 //TRANREP DD SYSOUT=*
000017 //TRANREP DD SYSOUT=*
000018 //TRANREP DD SYSOUT=*
000019 //TRANREP DD SYSOUT=*

```

**Library Compressed
Continue your Edit Session !!!**

Shortcuts for IPT Commands

Menu Utilities Compilers Options Status Help

z/OS Primary Option Menu

Option ==> ipt?

0	Settings	Terminal and user parameters	User ID . . : DNET187
1	View	Display source data or listings	Time. . . : 15:09
2	Edit	Create or change source data	Terminal. : 3278
3	Utilities	Perform utility functions	Screen. . : 1
4	Foreground	Interactive language processing	Language. : ENGLISH
5	Batch	Submit job for language processing	Appl ID . : ISP
6	Command	Enter TSO or Workstation commands	TSO logon : SPIFFY
7	Dialog Test	Perform dialog testing	TSO prefix: DNET187
P	IBM Products	IBM program products	System ID : DEMOMVS
10	SCLM	SW Configuration Library Manager	MVS acct. : 12345678
11	Workplace	ISPF Object/Action Workplace	Release . : ISPF 5.8
12	z/OS System	z/OS system programmer applications	
13	z/OS User	z/OS user applications	

Enter X to Terminate using log/list defaults



Shortcut Commands New in V5.9

-IPT-

COMMAND SHORTCUTS

Row 1 to 17 of 47

-IPT-

COMMAND SHORTCUTS

Row 18 to 34 of 47

COMMAND ===> 
 Commands: SORT

SCROLL ===> PAGE

COMMAND ===>
 Commands: SORT

SCROLL ===> PAGE

SHORTCUT COMMAND DESCRIPTION

```
-----
IPT  IPHELP  IPT HELP
ISET          IPT SET OPTIONS
IMAINT        IPT MAINTENANCE REPORT
IVER  IVERSION IPT VERSION REPORT
BR  BROWSE  '<DSNpat>(<MEMpat>)' - BROWSE
ED  EDIT    '<DSNpat>(<MEMpat>)' - EDIT
VI  VIEW    '<DSNpat>(<MEMpat>)' - VIEW
BF  BFILE   '<DSNpat>(<MEMpat>)' - BROWSE VSAM
EF  EFILE   '<DSNpat>(<MEMpat>)' - EDIT VSAM
VF  VFILE   '<DSNpat>(<MEMpat>)' - VIEW VSAM
O*           SHOW ALL OBJECT-LISTS
O/           POPULATE NEW OBJECT-LIST
OH  OHIST   HISTORY LIST OF ACCESSED DATASETS
OLIS  OLIST  <parm1>,<parm2> - OBJECT-LIST
OL    <parm1>,<parm2> - OBJECT-LIST
OL*           SHOW ALL OBJECT-LISTS
OL/           POPULATE NEW OBJECT-LIST
```

SHORTCUT COMMAND DESCRIPTION

```
-----
OLDD  OLDDNAME <DDname> - LIST ALLOCATED
OLB  OLBASE  <DSNpat> - LISTCAT BASE OF GENERATION
OLC  OLCAT   <DSNpat> - LISTCAT MULTIPLE PATTERNS
OLE           <DSNpat> - LISTCAT PDSE LIBRARIES
OLPDSE       <DSNpat> - LISTCAT PDSE LIBRARIES
OLG  OLGDG  <DSNpat> - LISTCAT GDG DATASETS
OLH  OLHIST  HISTORY LIST OF ACCESSED DATASETS
OLI  OLINFO  <DSNpat>,<VOLpat> - LISTCAT + INFO
OLM  OLMIG   <DSNpat> - LISTCAT MIGRATED
OLP  OLPAGE  <DSNpat> - LISTCAT PAGE-SPACE DATASETS
OLS  OLSYS   <SYStype> - LIST SYSTEM DATASETS
OLT  OLTAPE  <DSNpat> - LISTCAT TAPE DATASETS
OLV  OLVTOC  <VOLpat>,<DSNpat> - LISTVTOC DATASETS
OLVS  OLVSAM <DSNpat> - LISTCAT VSAM CLUSTERS
EX?  EX????? DISPLAY TSO PERMANENT COMMANDS
EX=           DISPLAY TSO MOST RECENT COMMAND
EX1          EXECUTE TSO PERMANENT COMMAND #1
```



Shortcut Example (OLH) History List

```

  Display  Filter  View  Print  Options  Help
-----
HGX7730  -----  SDSF PRIMARY OPTION MENU  -----
COMMAND INPUT ==> olh                                     SCROLL ==> PAGE

DA      Active users
I       Input queue
O       Output queue
H       Held output queue
ST      Status of jobs

LOG     System log
SR      System requests
MAS     Members in the MAS
JC      Job classes
SE      Scheduling environments
RES     WLM resources

INIT    Initiators
PR      Printers
PUN     Punches
RDR     Readers
LINE    Lines
NODE    Nodes
SO      Spool offload
SP      Spool volumes

RM      Resource monitor
CK      Health checker
  
```

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From any ISPF Panel obtain a list of
 Last 100 datasets accessed.

Save Keystrokes and Time on repeat functions !!!!!

History List

```
-IPT- OLIST (E) ----- DATA SET HISTORY ----- "A" will display assist
Command    ==> █                                SCROLL ==> PAGE
                                                *TEMPORARY LIST*
```

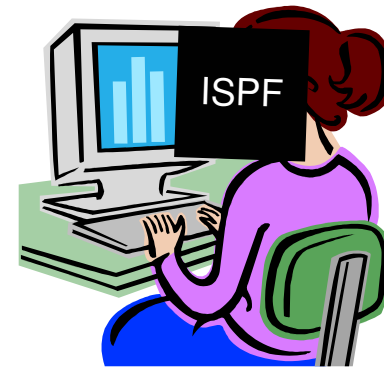
Command	Member	Numbr	Data Set Names / Objects	Volume
		1	'DNET187.ADLAB.JCL'	
	\$INDEX	2	'DNET187.ADLAB.INSTALL'	
		3	'DNET603.ADLAB.SYSDEBUG'	
		4	'DNET187.ADLAB.SYSDEBUG'	
		5	'DNET187.ADLAB.LISTING'	
	FMCTLCD	6	'DNET187.ADLAB.FILES'	
		7	'DNET187.ADLAB.COPYLIB'	
	C*	8	'DNET187.ADLAB.COPYLIB'	
		9	'DNET187.ADLAB.COPYLIB1'	
		10	'DNET187.ADLAB.COPYLIB2'	
	EQ*	11	'DNET187.ISPF.ISPPROF'	
	DNET*	12	'DB2.V7R1M0.SDSNLOAD'	
		13	'DB2.V7R1M0.SDSNLOAD'	
	FMCOPY	14	'DNET187.ADLAB.FILES'	
		15	'DNET187.ADLAB.DTCMD'	
	CUST1	16	'DNET187.ADLAB.COPYLIB'	
		17	'DNET047.CODE.DTSF'	
		18	'DNET187.OSVS.LISTING'	

Last 100 Datasets in Olist Format
positioned
At the Referenced Member

Select # to Edit

Summary ISPF Productivity !!!!!

- Enhanced action bar, pop-up windows, new functions, and point-and-shoot.
- Integrates seamlessly with ISPF
- Shortcuts and additional commands reduce the need to navigate to utility panels and invoke them separately
- Enhances TSO/ISPF Functions
- Access frequently used datasets using OLIST to reduce panel navigation and keystrokes
- Improves overall performance of ISPF: reduces CPU usage, EXCP counts, and improves response time. Browsing, editing, copying, displaying lists, and finding Data is significantly faster

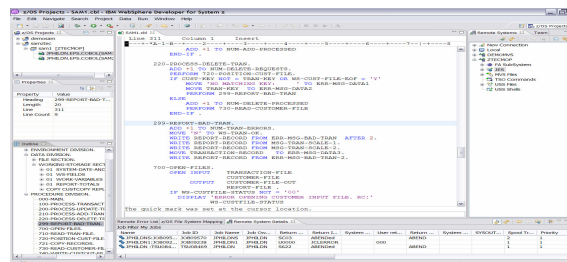


Evolution of development environment

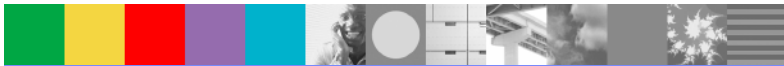


ISPF

- A flexible and customizable development environment can make your mainframe programmers more efficient
 - ▶ Language specific colorization with dynamic syntax checking
 - ▶ Language prompting
 - ▶ All needed tools available in one screen rather than SPLIT screen and screen STACKing
 - ▶ Drag and drop copies
 - ▶ Easy to move data from one LPAR to another
- Familiar GUI User interface for those not exposed to ISPF
- Automation of JCL creation
- Integration with Traditional “PD” Tools, ie. Debug Tool Utilities and Advanced Functions, IBM Fault Analyzer and IBM File Manager

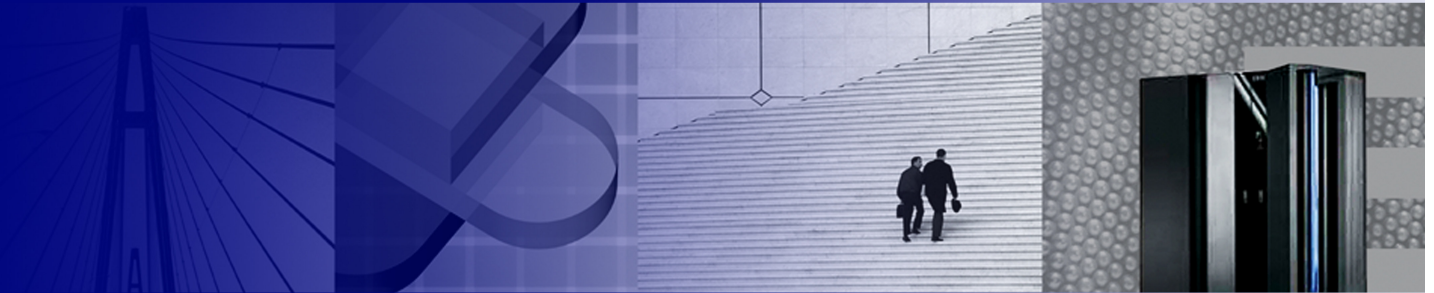


RDz

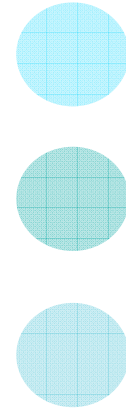




Rational Developer for System Z



- Productivity for current developers
- Attracting new people to the Z platform
- Continue to move the platform forward to make it the only tool needed for development
- Modernization & SOA



Developer Pains



- Productivity
 - ▶ Identify Create/Locate files needed for change
 - ▶ Making consistent changes
 - ▶ Creating deliverables under deadlines
 - ▶ Testing and verifying quality
 - ▶ Managing problems, failures and time

- Quality
 - ▶ Reliable deliverables
 - ▶ Easily verify error and informational message
 - ▶ Well structured skeletons

- Quickly adapting to change

Development Manager Pains

- Prompt and Quality deliverables (see Developers Needs)
- Reducing the need for training on multiple and/or different tools



- Ensuring groups doing different work communicate efficiently
- Ensure young recruits can be effective on the z/OS platform

Summary – What have we seen?

- Advances in development environments from 20th century to 21st century
- People new to System Z expect a modern interface than what was available from the past
- By investment and adding PD Tools to the RDz platform, we show our commitment for making application development easier and more productive
- With other development perspectives included in the same tool, artificial walls for developers can be reduced and communication/cooperation can be improved

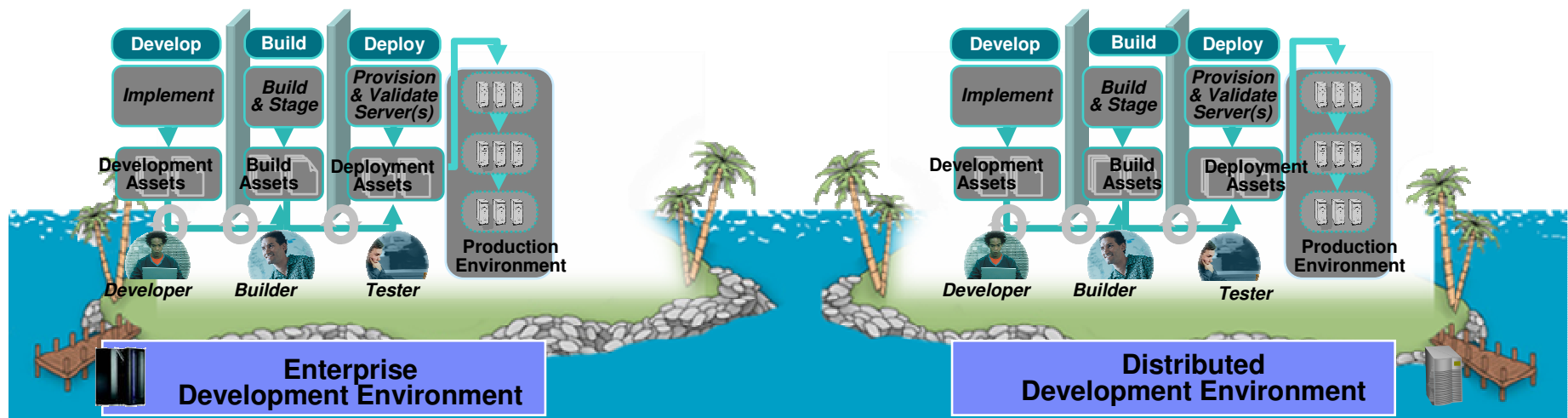


Helping customers optimize their investments in software delivery across organizationally diverse environments

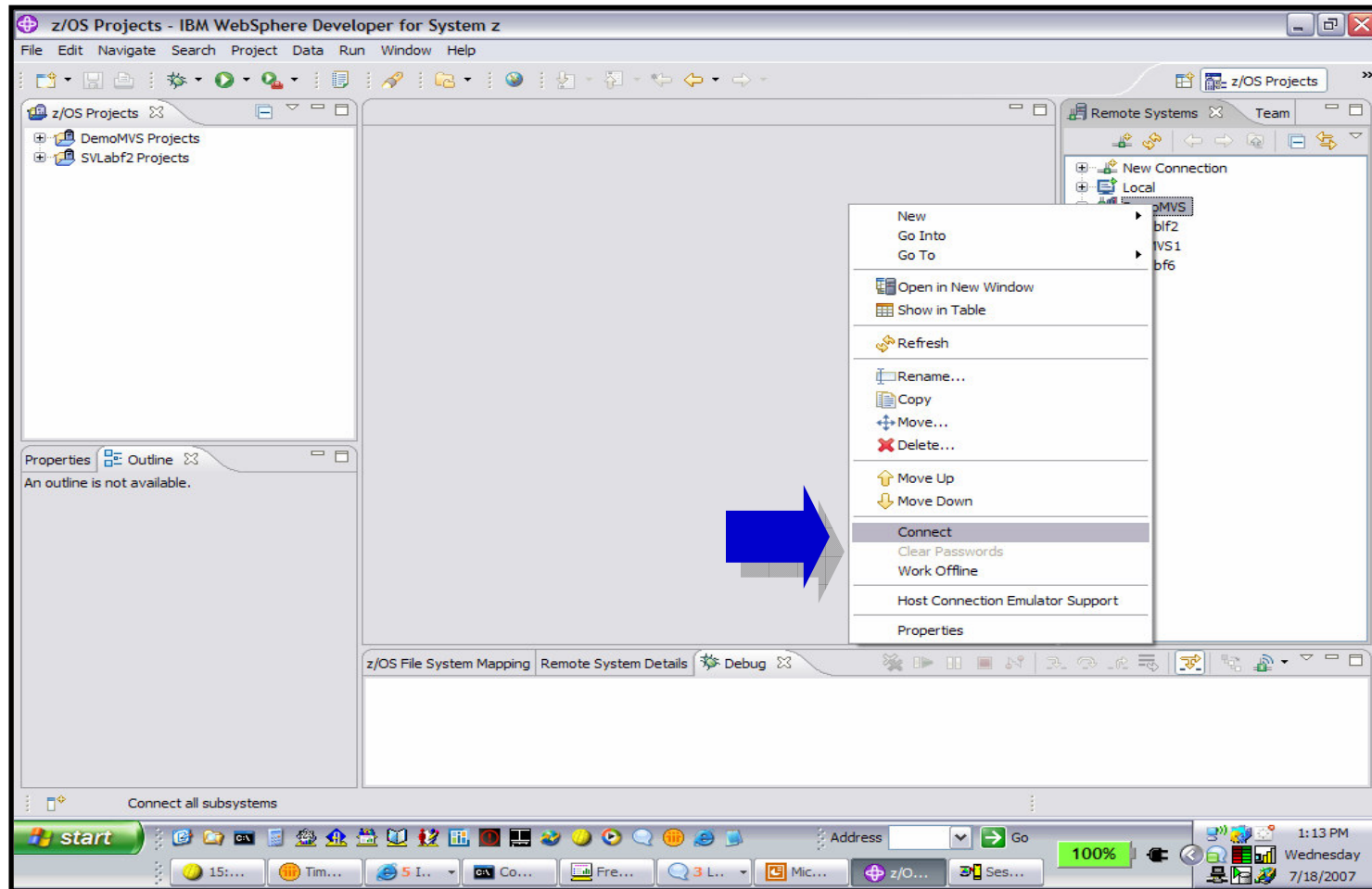


Challenges - Islands of development

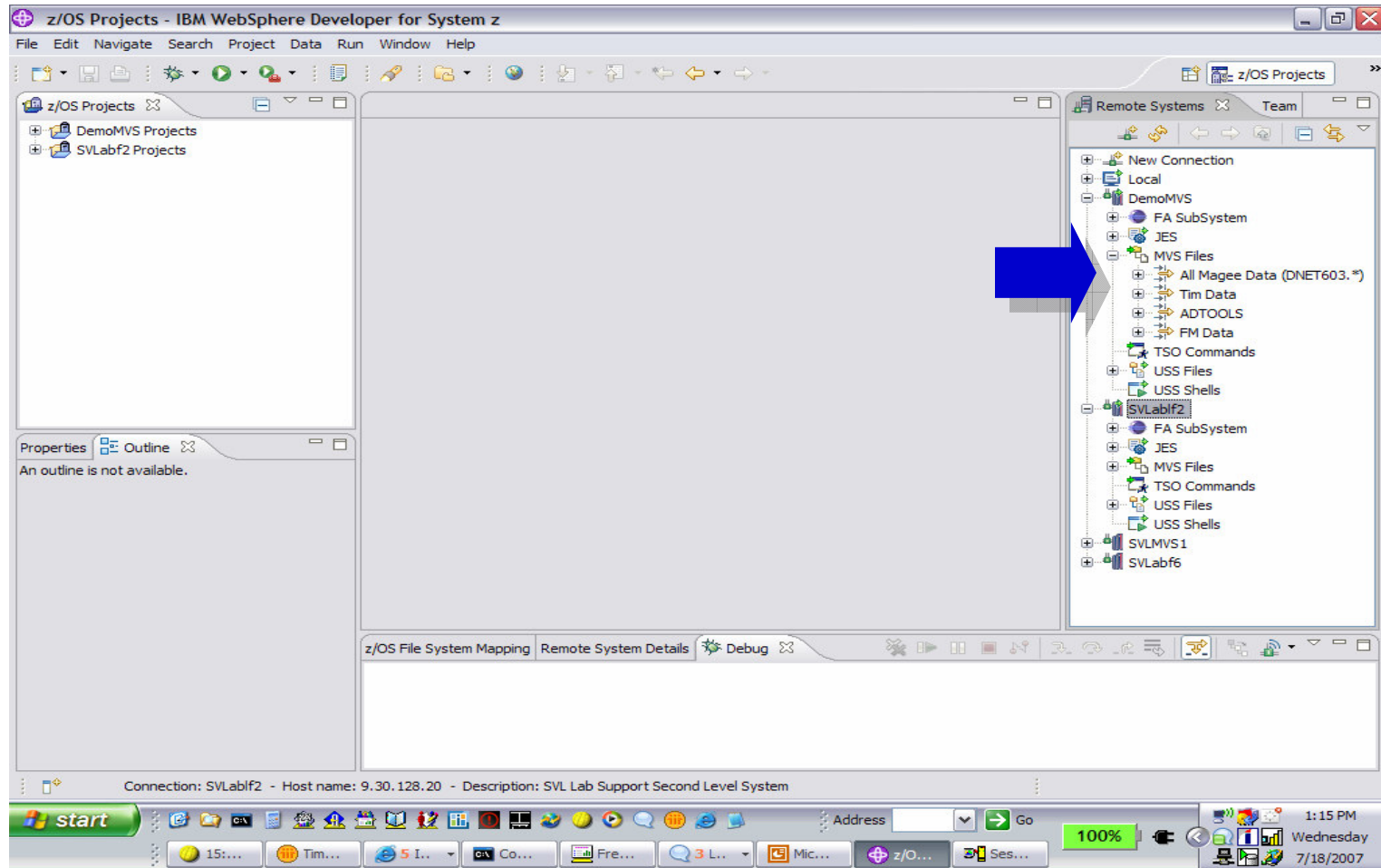
- Duplicate infrastructures limit IT and skills flexibility, introduce errors, reduce productivity
- Constrained IT flexibility due to skills islands (JAVA vs. COBOL)
- Multiple infrastructures, vendors, tools, increased costs, less \$'s available for new projects
- Lack of traceability inhibits end-to-end governance



RDz Host Connection:



RDz File Access/Edit:



RDz File Edit:

z/OS Projects - GATCDEMO.jcl - IBM WebSphere Developer for System z

File Edit Navigate Search Project Data Run Window Help

z/OS Projects

- DemoMVS Projects
- SVLabf2 Projects

*GATCDEMO.jd

Line	Column	Insert	changes
63	1		2

```

//
//SYSIN      DD DUMMY
//SYSOUT     DD SYSOUT=*
//SYSPRINT  DD SYSOUT=*
//SYSDUMP   DD SYSOUT=*
//SYSUDUMP  DD SYSOUT=*
//
//*****
//
//STEP3: THIS STEP EXECUTE THE DEMO PROGRAM
//*****
//STEP3     EXEC PGM=ATCDEMO,
//          PARM='/TEST(,,MFI%TRMLU002:*)'
//          PARM='/TEST(,,TCPIP&9.76.153.116:)'
//STEPLIB  DD DSN=DNET603.CODE.LOAD,DISP=SHR
//          DD DSN=DEBUG.V7R1.SEQAMOD,DISP=SHR
//
//SYSOUT    DD SYSOUT=*
//SYSPRINT  DD SYSOUT=*
//SYSDUMP   DD SYSOUT=*

```

Incorrect disposition status.

Properties Outline

```

//DNET603W JOB (ACCTG),D
//STEP1 EXEC PGM=IEBGEN
//STEP2 EXEC PGM=IEBGENER
//STEP3 EXEC PGM=ATCDEMO,

```

Remote Systems Team

- CPTM01.jd
- DFHMAPS.jd
- DFSIVJB3.jd
- DTSVSET.jd
- EQACU1GZ.jd
- EQACU1LZ.jd
- EQACU1MZ.jd
- EQACU3GA.jd
- EQACU3LA.jd
- EQACU3MA.jd
- EQAWIVP2.jd
- EQAWIVP5.jd
- EQAZIVCC.jd
- EQAZIVP8.jd
- GAIGCOB.jd
- GAPADB2.jd
- GASM01.jd
- GASSM01.jd
- GATCDEMO.jd
- GATCDEM2.jd
- GATCDEMC.jd
- GATCDEMF.jd
- GATCDEMO.jd
- GATCFA.id

z/OS File System Mapping Remote System Details Debug

z/OS LPEX Editor is active Save Needed

start 15:... Tim... 5 I... Co... Fre... 3 L... Mic... z/O... Ses... 100% 1:18 PM Wednesday 7/18/2007

RDz Remote Submit:

The screenshot shows the IBM WebSphere Developer for System z interface. The main editor displays a JCL file named *GATCEMO.jd. The JCL code includes system definitions, a job step (STEP3) to execute the program ATCEMO, and a STEPLIB definition. A context menu is open over the JCL code, with the 'Submit' option highlighted. A blue arrow points from the 'Submit' option to the JCL code. The Properties window on the left shows the job details for DNET603W. The Remote Systems window on the right shows a list of remote systems. The status bar at the bottom indicates 'z/OS LPEX Editor is active' and 'Save Needed'.

```

Line 47      Column 45      Replace 8 changes
//-----1-----2-----3-----4-----5-----6-----
//**
//SYSIN      DD DUMMY
//SYSOUT     DD SYSOUT=*
//SYSPRINT  DD SYSOUT=*
//SYSDUMP   DD SYSOUT=*
//SYSUDUMP  DD SYSOUT=*
//**
//*****
//** STEP3: THIS STEP EXECUTE THE DEMO PROGRAM
//*****
//STEP3     EXEC PGM=ATCEMO,
//**        PARM='/TEST(,,,MFI%TRMLU002:*)'
//**        PARM='/TEST(,,,TCPIP&9.76.153.116:)'
//STEPLIB   DD DSN=DNET603.CODE.LOAD,DISP=SHR
//**        DD DSN=DEBUG.V7R1.SEQAMOD,DISP=SHR
//SYSOUT    DD SYSOUT=*
//SYSPRINT  DD SYSOUT=*
//SYSDUMP   DD SYSOUT=*
//SYSUDUMP  DD SYSOUT=*
//CMD       DD DSN=DNET603.CODE.FILES(INSPIN),
  
```

RDz Remote Z/OS Debug:

Debug - DNET603.CODE.SYSDEBUG(ATCDEMO) - IBM WebSphere Developer for System z

File Edit Navigate Search Project Data Run Window Help

Debug Servers

com.ibm.debug.load [Compiled Application]
 Platform: OS/390(R) Connection: 9.39.64.151:3476
 Thread: 1 (Runnable)
 ATCDEMO : 01
 Process: 533770616 Program: ATCDEMO

Variables Breakpoints Registers Monitors Modules

Name	Value
no local variables are available for the selection	

DNET603.CODE.SYSDEBUG(ATCDEMO)

Line	Column	Insert	Browse
1		IDENTIFICATION DIVISION.	
2		*****	
3		* PROGRAM NAME: ATCDEMO Version IDM	
4		* *****	
5		* OBJECTIVES OF TESTCASE:	
6		* *****	
7		* DEMO INTERACTIVE DEBUG TOOL WITH A MULTIPLE	
8		* COMPILE UNIT TEST CASE	
9		* *****	
10			
11		PROGRAM-ID. ATCDEMO.	

Console Tasks Memory Debug Console

Monitors Renderings

start Microsoft PowerPoint ... AT&T Network Client ... Debug - DNET603.CO... Session A - [24 x 80] 97% 2:46 PM Wednesday 7/18/2007

Sample of PD Tools in RDz

The screenshot displays the IBM WebSphere Developer for System z interface, showing a project named 'z/OS Projects - JPHILDN.ADLAB.SAMFILE'. The main window is divided into several panes:

- Left Pane:** A project tree showing the structure of the project, including source files like 'JPHILDN.EPS.COBOL(S)', 'JPHILDN.EPS.LOAD(SAM)', and 'JPHILDN.EPS.SYSDEBU'.
- Top Center Pane:** A source code editor showing a COBOL program with line numbers and data field values at the time of an abend. The code includes:


```

      000031      05 WS-UPDATE-NUM
      +0.
      000064      05 CUST-ACCT-BALANCE

      Data field values at time of abend:

      CUST-ACCT-BALANCE = X'7C7B5B6C50' *** Cau
      WS-UPDATE-NUM      = 7.89
      
```
- Top Right Pane:** A table showing data associated with the program. The table has columns for 'C...', 'F', 'NAME', and 'ACCT-BA...'.

C...	F	NAME	ACCT-BA...
11544	A	Graf, Polly	244.42
12689	A	Boyd, Luke A.	86.88
13062	A	Turner, Paige	*****
13295	A	Well, Alice	731.26
13943	A	Sawyer, Dinah	622.16
14207	A	Auerbach, Hans	11.11
- Bottom Center Pane:** A COBOL program listing showing lines 196 through 202. Line 196 is highlighted in blue.


```

      Line 196      Column 1      Insert      Browse
      -----1-----2-----3-----4-----5-----6-----7-----8-----9-----
      196      COMPUTE CUST-ACCT-BALANCE =
      197      CUST-ACCT-BALANCE + WS-UPDATE-NUM
      198      COMPUTE TRAN-COUNT = TRAN-COUNT + 1
      199      END-EVALUATE
      200      WHEN 'ORDERS '
      201      EVALUATE TRAN-ACTION
      202      WHEN 'REPLACE'
      
```
- Bottom Right Pane:** A 'Remote Error List' table showing system-wide information.

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	I_Abend	Job_ID	Jobname
F01585	JPHILDNS	JPHILDN	ZT01	S0C7	S0C7	JOB05521	JPHILDNS
F01584	TRAD	CICSUSER	ADTMONO	AED3	AED3	STC02947	ADTMONO
F01583	CEDF	CICSUSER	ADTMONO	ATNI	ATNI	STC02947	ADTMONO

DEMO Traditional Developer

- Rational Development for System Z (RDz V7.1)
 - ▶ Creating a project and working with COBOL
 - ▶ Showing PD Tools integrated in RDz

Demonstrate IBM's continued effort to increase the power of COBOL and PLI developers.





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