

# Configuring ISPF for Fun and Profit

Session 10948

Wednesday, March 14, 2012

Thomas Conley

Pinnacle Consulting Group, Inc. (PCG)

59 Applewood Drive

Rochester, NY 14612-3501

P: (585)720-0012

F: (585)723-3713

[pinicons@rochester.rr.com](mailto:pinicons@rochester.rr.com)

<http://home.rochester.rr.com/~pinicons>

## Abstract

Do you have a hard time configuring ISPF? Do you want to create the same ISPF look and feel for your users? Would you like to set up ISPF for better performance? If you answered 'YES' to any of these questions, this session is for you! Come to this session to learn how to configure ISPF for lean and mean operation. Teach ISPF to dance to your tune, for a change! In this session, the speaker will also include an online demonstration and a real-time ISPF configuration session.

# Agenda

- ISPF Configuration History
- ISRCONFG - The “Old” Way
- ISPCCONF Dialog Setup
- ISPCCONF - The “New” Way
- Create and Compile the Keyword File
- Convert ISRCONFG to ISPCCONF
- Miscellaneous Topics
- The WAC ISPF Configuration
- Summary
- Finally...

# ISPF Configuration History

- In the past, ISPF Configuration was difficult because configuration data was stored in many places and code referencing it was inconsistent
- ISRCONFG load module
- ISPSPROF system default table
- ISREDIT edit profile table ZDEFAULT profile
- Hard-coded defaults in various ISPF load modules

# ISPF Configuration History

- Unfortunately, ISRCONFIG, ISPSPROF, and ISREDIT didn't control all ISPF config items
- Problems were difficult to diagnose because you never knew where ISPF would get the information; sometimes a hard-coded default would override your explicit specification
- Configuring ISPF began with creating an SMP/E usermod installing the ISRCONFIG load module, but there were problems with this method

## ISRCONFIG - The “Old” Way

- ISRCONFIG was placed in target ISP.SISPLPA by default, so without further SMP/E customization, ISPF defaults only took effect after an IPL with CLPA
- ISRCONFIG did not create defaults for all ISPF settings, so ISPF configuration tables  
ISP.SISPTENU(ISPSPROF) and  
ISP.SISPTENU(ISREDIT) had to be customized

## ISRCONFIG - The “Old” Way

- To customize these tables, the ISPF administrator would go through each ISPF panel to change ISPSPROF settings (e.g. scroll values, etc.), and ran an edit session using profile ZDEFAULT to change ISREDIT settings
- An SMP/E usermod was then created to add the updated ISPSPROF and ISREDIT to the system
- Unfortunately, some ISPF modules ignored ISRCONFIG, ISPSPROF, ZDEFAULT, etc., so they used their own hard-coded defaults

## ISPCCONF - The “New” Way

- Since ISPF configuration was too complex and error prone, the ISPF Configuration Dialog, ISPCCONF, was introduced with OS/390 V2R8
- ISPCCONF was designed to combine ISRCONFG, ISPSPROF, and ISREDIT ZDEFAULT settings into a single load module ISPCFIGU (VSAM configuration load module ISPCFIGV also created if VSAM keywords are specified in ISPCCONF by the ISPF administrator)



## ISPCCONF - The “New” Way

- ISPCCONF is half of the solution, the other half is the ISPF code modified to honor ISPCCONF
- While ISPSPROF and ISREDIT are still distributed in ISP.SISPTENU, they are empty members only used as placeholders
- If you still want to use ISPSPROF and ISREDIT, they will override ISPCFIGU module, but not recommended
- Field-level help is available so you can make the correct configuration decision

## ISPCCONF Dialog Setup

- To setup the ISPCCONF dialog, allocate a keyword file, a text file of options that will be used to generate load modules ISPCFIGU and ISPCFIGV containing ISPF defaults
- The keyword file must be a PDS, and have a minimum record length of 255 for variable format records, and 251 for fixed format records
- For space, CYL,(1,1,45) should allow enough room and directory space to store multiple members for testing and backup purposes

## ISPCCONF Dialog Setup

- Since ISPCCONF is a default part of ISPF and can be executed by any user, be sure to secure LINKLIST, LPA, or any other candidate loadlib datasets to prevent an unauthorized user from either accidentally or deliberately changing ISPF defaults

## Create and Compile Keyword File

- After setting up ISPCCONF, you can proceed to creating and compiling the keyword file
- Enter “TSO ISPCCONF” on command line or “ISPCCONF” from ISPF option 6
- The ISPF Configuration Utility menu is displayed, showing the last keyword file you worked with
- NOTE: The following screen shots were taken from a z/OS V1R13 system. Some of the fields shown may not be applicable to lower levels of ISPF.

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

ISPFS Configuration Utility

Option ==> █

1 Create/Modify Settings and Regenerate Keyword File
2 Edit Keyword File Configuration Table
3 Verify Keyword Table Contents
4 Build Configuration Table Load Module
5 Convert Assembler Configuration Table to Keyword File
6 Build SMP/E USERMOD

Keyword File Data Set
Data Set . . . 'TCONLEY.ISPF.KEYWORD'
Member . . . . DEFAULT

Configuration Table Assembler Source Data Set
Data Set . . .
Member . . . .

Output File Content for Keyword File
2 1. Include only non-default values
   2. Include defaults as comments
   3. Include all values

Current Configuration Table
Keyword File : PEL.ISPF.CONFIG.KEYWORD.FILE(SYSTEM)
Identifier . : ISPCFIGU Level . . . : 480R8001
Compile Date : 2011/08/28 Compile Time : 11:04

Ma a 2,14

```

## Create and Compile Keyword File

- This menu also displays current ISPF configuration table, keyword file that generated it, and date and time it was compiled
- Enter dataset name and member name of keyword file
- Enter option 1, Create/Modify Settings and Regenerate Keyword File
- Recommend default for Output File Content for Keyword File, option 2, so that all ISPF configuration options are displayed in keyword file, with defaults commented out
- This will clearly show customized configuration items
- Hit enter to display Create/Modify ISPF Configuration

# Create and Compile Keyword File

```
Session A
File Edit Font Transfer Macro Options Window Help

Create/Modify ISPF Configuration Defaults loaded

Option ==> █

General ISPF Settings
1 Editor Settings
2 Edit/View/Browse VSAM Settings
3 PDF Exits and Other PDF Settings
4 ISPF Site-wide Defaults
5 ISPDFLT, CUA Colors, and Other DM Settings

System Profile (ISPSPROF) Settings
6 Log and List Defaults
7 Terminal and User Defaults
8 Workstation Defaults
9 Workstation Download Defaults

Output Keyword File
Data Set . . . 'TCONLEY.ISPF.KEYWORD'
Member . . . . SHAREATL

Instructions:
Enter option to change configuration settings,
END or EXIT command to generate keyword file, or
CANCEL command to exit without keyword file generation

Ma a 2,14
```

## Create and Compile Keyword File

- Note the message “Defaults loaded”; this indicates creation of new keyword member SHAREATL
- If modifying an existing keyword member, the message “Keyword file loaded” will be displayed
- Enter 1 to bring up Modify PDF Edit Configuration Settings



# Create and Compile Keyword File

```

Session A
File Edit Fort Transfer Macro Options Window Help

Modify PDF Edit Configuration Settings

Command ==> _____ More: +

Miscellaneous Edit Settings
Maximum Number of Edit Profiles . . . . . 25
Maximum Number of Edit Clipboards . . . . . 11
Site-wide Initial Macro . . . . . 
Maximum Initial Storage for Edit . . . . . 0 (Number of 1K Blocks)
Maximum Edit Clipboard Size . . . . . 0 (Number of 4K Pages)
Undo Storage Size . . . . . 0 (Number of 1K Blocks)
Text Flow Terminators . . . . . .:&<
Edit CUT Default Action . . . . . REPLACE (APPEND or REPLACE)
Edit PASTE Default Action . . . . . KEEP (DELETE or KEEP)

Enter "/" to select option
/ Allow Edit Highlighting
/ Default Editor to have Highlighting Enabled
/ Highlight Assembler Continuation Errors

/ Default Editor to have Action Bars Present
/ Warn on Trailing Blank Truncation
/ Allow Creation of CREATE/REPLACE Target Data Set
- Force ISRE776 if RCHANGE passed arguments
- Enable Extended Statistics

Edit Preserve Settings
Enter "/" to select option
- Preserve VB record length
- Force the Preserve VB record length Selection

Edit Recovery Data Set Settings | SCLM Warning Level

Ma a 7,45
  
```

## Create and Compile Keyword File

- After modifying the PDF Edit Options, hit PF3 to return to Create/Modify ISPF Configuration Menu
- Select option 3 to Modify PDF Configuration Settings

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

Modify PDF Configuration Settings

Command ==> _____ More: +

PDF Exits
Data Set Allocation Program Exit . . . . . _____
Print Utility Program Exit . . . . . _____
Print Utility Command Exit . . . . . _____
Compress Program Exit . . . . . _____
Compress Command Exit . . . . . _____
Data Set List Filter Program Exit . . . . . _____
Member List Filter Program Exit . . . . . _____
Data Set Name Change Program Exit . . . . . _____
Data Set List Line Command Program Exit . . . . . _____
Activity Monitoring Program Exit . . . . . _____
Member List Line Command Program Exit . . . . . _____
Member List Line Command Command Exit . . . . . _____

PDF Data Set Characteristics

Outlist Utility
Record Length . . . . . 133
Block Size . . . . . 13566
Primary Blocks . . . . . 200
Secondary Blocks . . . . . 100

SuperC Block Sizes
List Data Set . . . . . 0
Update Data Set . . . . . 0
Profile Data Set . . . . . 0
Statements Data Set . . . . . 0
Listing Primary Quantity . . . . . 50
Listing Secondary Quantity . . . . . 100
Update Primary Quantity . . . . . 15
Update Secondary Quantity . . . . . 30

Move/Copy Settings
Enter "/" to select option
/ Allow Creation of Move/Copy Target Data Set
  
```

## Create and Compile Keyword File

- After modifying PDF Configuration Settings, hit PF3 to return to Create/Modify ISPF Configuration Menu
- Select option 4 for Modify ISPF Sitewide Defaults

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

Modify ISPF Sitewide Defaults

Command ==> _____ More: +

If you select any RESET fields in the sections: ISPF Site-wide Defaults, CUA
Color Settings, Log and List Defaults, Terminal and User Defaults, Workstation
Defaults, or Workstation Download Defaults you must increment the Sitewide
Defaults Version Level field to enable the RESET fields you have selected.
Increment only the last 3 digits of the Sitewide Defaults Version Level. ISPF
is always shipped with the Sitewide Defaults Version Level field set to 43000.
This value does not change with new versions or releases of ISPF.

Sitewide Defaults Version Level . . . 43000

General settings
Enter "/" to select option
[ ] Tab to Point and Shoot
[/] Tab to Action Bars
[ ] Use Session Manager
[/] Jump From Leader Dots
[/] Always Show Split Line
[/] Long Messages in Pop-ups
[ ] Edit PRINTDS Command
[/] Restore Test/Trace Options
[/] Display Panels in CUA Mode
[/] Use Keylists
[/] Show Pfkeys

Select Option 7.1 Dialog Test Panel
1 1. ISPYFP
   2. ISPYFPA
   3. ISPYFPB

Reset flags
Enter "/" to select option
[ ] Reset Tab to Point and Shoot
[ ] Reset Tab to Action Bars
[ ] Reset Use Session Manager
[ ] Reset Jump From Leader Dots
[ ] Reset Show Split Line
[ ] Reset Long Messages in Pop-ups
[ ] Reset Edit PRINTDS Command
[ ] Reset Restore Test/Trace Options
[ ] Reset Display Panels in CUA Mode
[ ] Reset Use Keylists
[ ] Reset Show Pfkeys
[ ] Reset LOG Data Set Process Option
[ ] Reset LIST Data Set Process Option
[ ] Reset Command Line Placement

Ma a 16,4
  
```

## Create and Compile Keyword File

- After going through all ISPF options, hit PF3 (END) to save keyword file
- A View screen is then displayed showing the keyword file and all customized options
- Hit PF3 (END) to leave keyword file display
- Message "Keyword file saved" is displayed on ISPF Configuration Utility menu

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW          TCONLEY.ISPF.KEYWORD(SHAREATL) - 01.00          Columns 00001 00072
Command ==>
***** Top of Data *****
000001 /* ISPF Configuration table definition.  Generated by REXX ISPCMOD */
000002 /*   Created 21:47:12 on 13 Mar 2012 */
000003 /*   by user TCONLEY. */
000004 /*   Defaults were included as comments. */
000005 /*
000006 OUTLIST_BLOCK_SIZE                = 0
000007 EDIT_RECOVERY_BLOCK_SIZE          = 27998
000008 STATS_EXT_ENABLED                 = YES
000009 RECOVERY                           = ON
000010 NULLS                              = ALL
000011 DISPLAY_SEQUENCE_NUMBERS           = OFF
000012 HILITE                              = ON
000013 HILITE_DOLOGIC                      = ON
000014 HILITE_IFLOGIC                     = ON
000015 HILITE_PAREN                       = ON
000016 HILITE_FIND                        = OFF
000017 TAB_TO_ACTION_BARS                 = NO
000018 COMMAND_LINE_PLACEMENT             = ASIS
000019 USE_KEYLISTS                        = NO
000020 SHOW_PFKEYS                        = OFF
000021 SCROLL_DEFAULT                      = CSR
000022 STATUS_AREA_DEFAULT                 = CAL
000023 LIST_DATA_SET_RECORDS_PER_BLOCK     = 231
000024 LOG_DATA_SET_BLOCK_SIZE             = 0
000025 BLOCK_SIZE_FOR_TEMPORARY_CNTL_DATA_SETS = 0
000026 BLOCK_SIZE_FOR_TEMPORARY_LIST_DATA_SETS = 0
000027 BLOCK_SIZE_FOR_TEMPORARY_WORK_DATA_SETS = 0

Ma a 4,15

```

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

ISPF Configuration Utility                                Keyword file saved

Option ==> █

1 Create/Modify Settings and Regenerate Keyword File
2 Edit Keyword File Configuration Table
3 Verify Keyword Table Contents
4 Build Configuration Table Load Module
5 Convert Assembler Configuration Table to Keyword File
6 Build SMP/E USERMOD

Keyword File Data Set
Data Set . . . 'TCONLEY.ISPF.KEYWORD'
Member . . . . SHAREATL

Configuration Table Assembler Source Data Set
Data Set . . .
Member . . . .

Output File Content for Keyword File
2 1. Include only non-default values
   2. Include defaults as comments
   3. Include all values

Current Configuration Table
Keyword File : PEL.ISPF.CONFIG.KEYWORD.FILE(SYSTEM)
Identifier . : ISPCFIGU                               Level . . . : 480R8001
Compile Date : 2011/08/28                             Compile Time : 11:04

Ma a 2,14

```



## Create and Compile Keyword File

- Option 2 Edit Keyword File Configuration Table is not recommended; use ISPCCONF menus to create syntactically correct keyword file
- Option 3 Verify Keyword Table Contents ensures a syntactically correct keyword file
- Option 4 Build Configuration Table Load Module creates ISPCFIGU and ISPCFIGV modules from the keyword file
- Entering '4' brings up the following pop-up menu

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

ISPFC Configuration Utility

Build Configuration Table Load Module

Command ==> █

Input Keyword File Data set
Data Set . . . 'TCONLEY.ISPF.KEYWORD'
Member . . . . SHAREATL

Output Configuration Table Load Module Data Set
Data Set . . . 'TCONLEY.ISPF.LOADLIB'

Optional fields (leave blank for ISPF to use defaults)
Object data set . . .
Configuration member . . . (Defaults to ISPCFIGU)
VSAM member . . . . . (Defaults to ISPCFIGV)

2. Include defaults as comments
3. Include all values

Current Configuration Table
Keyword File : PEL.ISPF.CONFIG.KEYWORD.FILE(SYSTEM)
Identifier . : ISPCFIGU Level . . . : 480R8001
Compile Date : 2011/08/28 Compile Time : 11:04

Ma a 4,17
  
```

## Convert ISRCONFIG to ISPCCONF

- Recommend linklist load library for easy installation and maintenance since new defaults can be set with “FLLA,REFRESH” MVS command
- Use default values for everything else
- Hit Enter to generate load modules
- Note message "Load module built"

# Create and Compile Keyword File

```

Session A
File Edit Font Transfer Macro Options Window Help

ISPFC Configuration Utility                               Load module built

Option ==> █

1 Create/Modify Settings and Regenerate Keyword File
2 Edit Keyword File Configuration Table
3 Verify Keyword Table Contents
4 Build Configuration Table Load Module
5 Convert Assembler Configuration Table to Keyword File
6 Build SMP/E USERMOD

Keyword File Data Set
Data Set . . . 'TCONLEY.ISPF.KEYWORD'
Member . . . . SHAREATL

Configuration Table Assembler Source Data Set
Data Set . . .
Member . . . .

Output File Content for Keyword File
2 1. Include only non-default values
   2. Include defaults as comments
   3. Include all values

Current Configuration Table
Keyword File : PEL.ISPF.CONFIG.KEYWORD.FILE(SYSTEM)
Identifier . : ISPCFIGU                               Level . . . : 480R8001
Compile Date : 2011/08/28                             Compile Time : 11:04

Ma a 2,14

```

## Convert ISRCONFG to ISPCCONF

- Option “5” on ISPCCONF menu converts ISRCONFG to a keyword table
- The assembler source **MUST** be assembler source; if you try to use a usermod with JCL and SMP/E wrapped around it, ISPCCONF will not recognize the source
- Not really relevant today, but if you have ISRCONFG source laying around and you’ve never run ISPCCONF.....

## Miscellaneous Topics

- Unfortunately, option “6”, the “Build SMP/E USERMOD” option, is not suitable for use
- The FMID, target, and DLIB datasets must be specified manually, and are not checked for accuracy
- While a syntactically correct USERMOD is built, the ++DATA and ++PROGRAM elements ISPCFIGx are not shipped by ISPF, so the USERMOD will not notify you of a regression when ISPCCONF maintenance is applied

## Miscellaneous Topics

- Dialog uses superseded USERMODs, but USERMODs are RESTOREd and re-APPLY'd, not superseded
- A PRE field should be supplied for the prerequisite ISPF maintenance, but you have to add that manually
- Do not use the USERMOD option; rely on ISPF service to issue HOLDDATA for PTFs requiring ISPCCONF to rebuild ISPCFIGx; open a PMR if they forget

## The WAC ISPF Configuration

- Following is the WAC (World According to Conley) method for configuring ISPF, a set of recommendations for settings to improve ISPF performance and usability
- If these settings work for you and you agree with them, great; but if not, don't hesitate to do something else if it's appropriate for your installation (Your Mileage May Vary!)



# The WAC ISPF Configuration

- Option 1, Editor Settings

Enter '/' for Enable Extended Statistics

Change edit recovery dataset blocksize to half-track blocking (27998 on a 3390) for better performance and space utilization

For edit options, check RECOVERY ON (safety, recovery, investment protection), uncheck NUMBER ON and change NULLS to NULLS ON ALL (increase user productivity in EDIT)

# The WAC ISPF Configuration

- Option 1, Editor Settings

In Edit Highlighting, check HILITE ON, Highlight DO/END logic, Highlight IF logic, and Match parentheses (user productivity, but there is higher overhead; testing shows about an 8X increase in service units for HILITE, but to the naked eye there's no degradation)

Uncheck highlight FIND strings (personal preference, a lot of hits on one screen make data hard to read)

## The WAC ISPF Configuration

- Option 3, PDF Exits and Other PDF Settings
  - Specify 0 (zero) for Outlist Utility Block Size to get half-track blocking for OUTLIST datasets
  - Specify '/' for Enable RM/Tape Commands, and specify appropriate RM/Tape Command and APPLID
  - If running a storage manager other than HSM, modify the Volume for Migrated Data Sets and Delete Command for Migrated Data Sets fields for correct values

# The WAC ISPF Configuration

- Option 4, ISPF Sitewide Defaults
  - Uncheck Tab to Action Bars, uncheck Use Keylists, uncheck Show Pfkeys
  - Set Select Option 7.1 Dialog Test Panel to ISPYFPA, set Command Line Placement to Asis, set Scroll Default to CSR, set Status Area Default to Calendar
  - If you want Empty Member List support, check Allow Empty Member List and Allow Empty Member List (nomatch)
  - Set List Data Set Records per Block to 231 for a 3390 (LRECL 121 \* 231 = 27951, half-track for a 3390)
  - Specify 0 (zero) for all ISPF dataset blocksizes to get half-track blocking

# The WAC ISPF Configuration

- Option 4, ISPF Sitewide Defaults

For multisystem and multiple logon support, specify SYS&SYSNAME Additional Temporary Data Set Qualifier to create LPAR-unique temporary dataset names and eliminate need for ISPF exit 16

Specify "/" for Multi-logon Profile Sharing (required to support OSMF's multiple ISPF window facility)

If enabling multiple logon support, create shared ISPF profile dataset and modify logon exec, etc., to allocate

For more information regarding multiple logon, refer to

<http://home.roadrunner.com/~pinnccons/TSO LOGON with the Same Userid on Multiple LPARs in a Sysplex.pdf>

# The WAC ISPF Configuration

- Option 5, ISPDFLTS, CUA Colors, and Other DM Settings
  - Set SITE for Site Command Table 1
  - Set USER for User Command Table 1
  - Set Retrieve Command Stack Size to 4096
  - Set the Default Primary Panel to ISR@PRIM
  - Set the Default LIBDEF Processing Option to STACK
  - Change Action Bar Separator Line to color to Yellow

## The WAC ISPF Configuration

- Option 6, Log and List Defaults
  - Create valid Log/List job cards
  - Set the Log Primary and Secondary Quantity to 0
  - Enter '/' for Message ID
  - Set the List Primary and Secondary Quantity to 1
- Option 7, Terminal and User Defaults
  - Set Number of Keys to 24
  - Check the Message Identifier field to assist debugging

# The WAC ISPF Configuration

- Option 8 Workstation Defaults can remain unchanged
- Option 9 Workstation Download Defaults can remain unchanged
- That's the WAC ISPF Configuration!



# DEMO TIME!

- Synchronize your watches
- Time me
- GO!

# Summary

- Discussed ISPF Configuration History
- Reviewed ISRCONFG methods for customizing ISPF
- Introduced ISPCCONF dialog for customizing ISPF
- Demonstrated how to Create and Compile keyword file
- Showed how to convert from ISRCONFG to ISPCCONF
- Discussed Miscellaneous Topics such as SMP/E usermod
- Discussed WAC (World According to Conley) method for configuring ISPF

## Finally...

- Please fill out an evaluation, your comments help me to deliver a better presentation
- Online evaluations are available at <http://atlanta.share.org/sessionevaluation>
- I'm interested in hearing about your ISPCCONF experiences, positive or negative; if you encounter any unique situations or problems using ISPCCONF to configure ISPF, please let me know about them by sending an Email to [pincons@rochester.rr.com](mailto:pincons@rochester.rr.com)