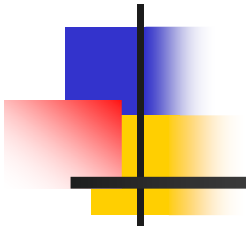

Configuring ISPF for Fun and Profit

NewEra Software - The zExchange
July 28, 2015

Thomas Conley
Pinnacle Consulting Group, Inc.
59 Applewood Drive
Rochester, NY 14612-3501
P: (585)720-0012
F: (585)723-3713
pinncons@rochester.rr.com

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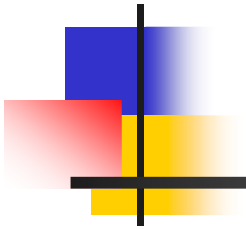

Abstract

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.

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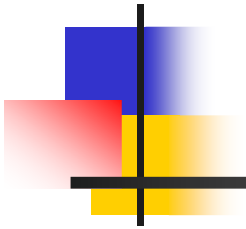

Agenda

- ISPF Configuration History
- ISRCONFG - The “Old” Way
- ISPCCONF - The “New” Way
- ISPCCONF Dialog Setup
- Create and Compile the Keyword File
- Convert ISRCONFG to ISPCCONF
- (DON’T) Build SMP/E Usermod
- Recover Keyword File from ISPCFIGx

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Agenda

- The WAC ISPF Configuration
- Summary
- Finally...

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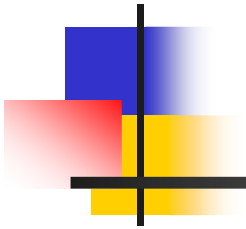

ISPF Configuration History

- 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

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ISPF Configuration History

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

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ISRCONFIG - The "Old" Way

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

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ISRCONFIG - The "Old" Way

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

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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 single load module ISPCFIGU (VSAM configuration load module ISPCFIGV also created if VSAM keywords specified by ISPF administrator)

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ISPCCONF - The "New" Way

- ISPCCONF is half the solution, the other half is 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 this method is NOT RECOMMENDED
- Field-level help available so you can make correct configuration decision

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ISPCCONF Dialog Setup

- To setup ISPCCONF dialog, allocate keyword file (text file of options) that will be used to generate load modules ISPCFIGU and ISPCFIGV containing ISPF defaults
- The keyword file must be PDS(E), and have minimum record length of 255 for variable format, or 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

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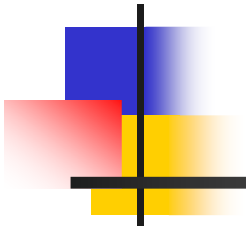

ISPCCONF Dialog Setup

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

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Create and Compile Keyword File

- After setting up ISPCCONF, you can proceed to creating and compiling keyword file
- Enter "TSO ISPCCONF" on command line or "ISPCCONF" from ISPF option 6
- The ISPF Configuration Utility menu is displayed, showing last keyword file you worked with
- NOTE: The following screen shots were taken from z/OS V2R1 system; some fields shown may not be applicable to lower levels of ISPF

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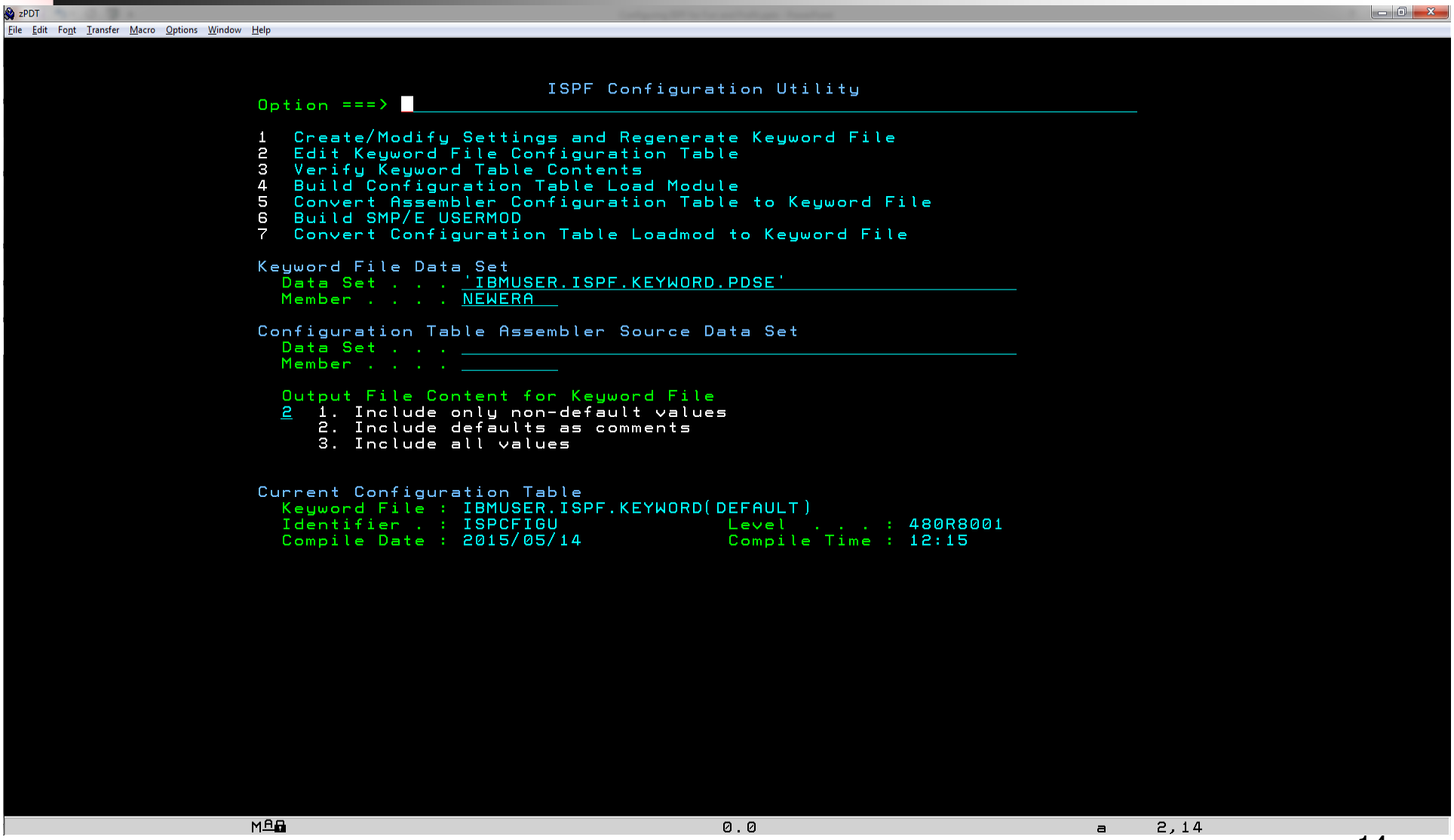
Create and Compile Keyword File



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Create and Compile Keyword File

- Menu displays current ISPF configuration table, keyword file that generated it, and date and time it was compiled
- Recommend default for Output File Content for Keyword File is option 2, "Include defaults as comments"
- All ISPF configuration options will be displayed in keyword file, with defaults commented out
- This clearly shows customized configuration items

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Create and Compile Keyword File

- Enter dataset name and member name of keyword file
- Pick meaningful member name (e.g. date of keyword member, function like TEST or PROD, DEFAULT for regular options, etc.)
- Enter option 1, Create/Modify Settings and Regenerate Keyword File
- Hit enter to display Create/Modify ISPF Configuration

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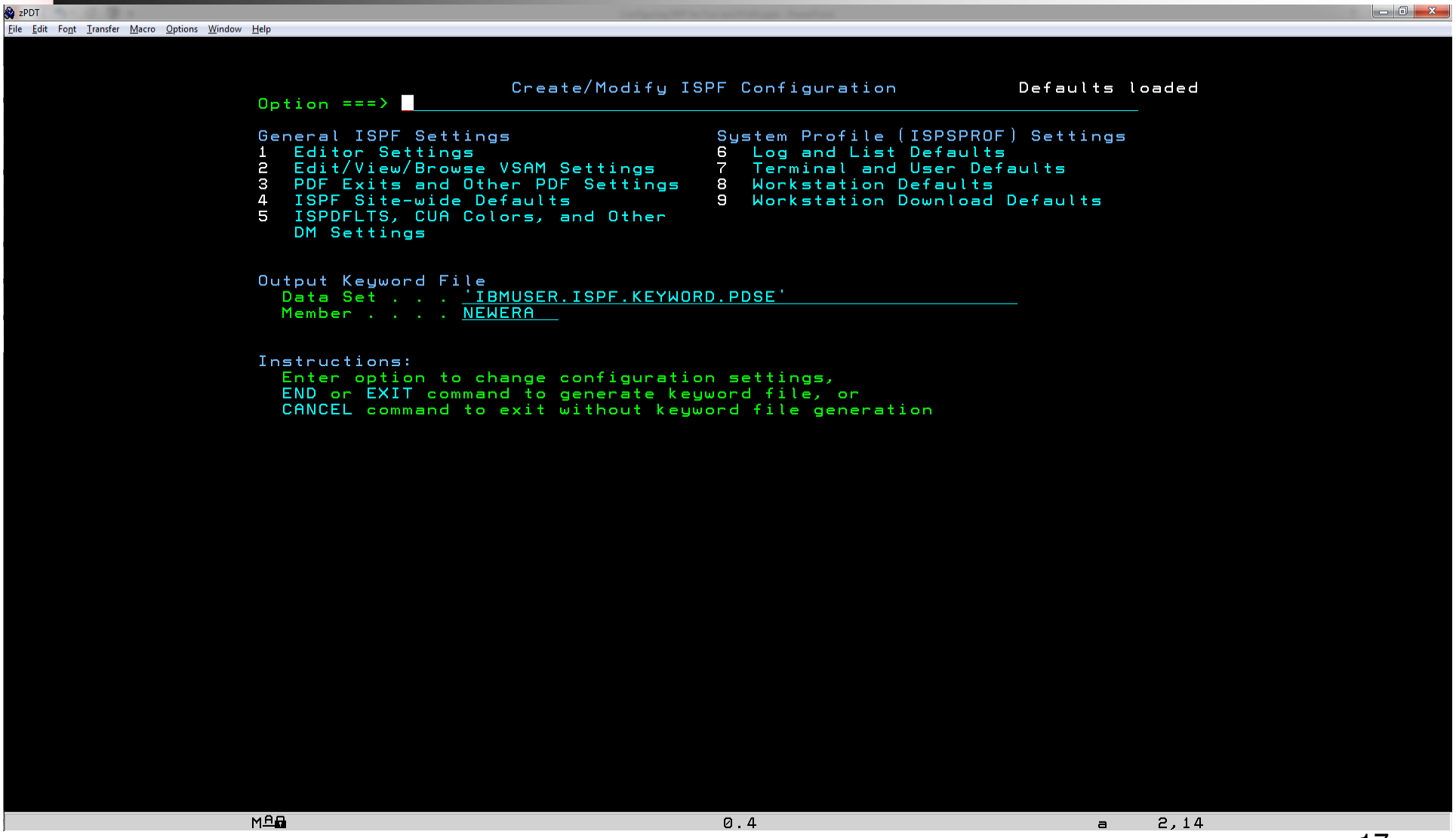
Create and Compile Keyword File



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Create and Compile Keyword File

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

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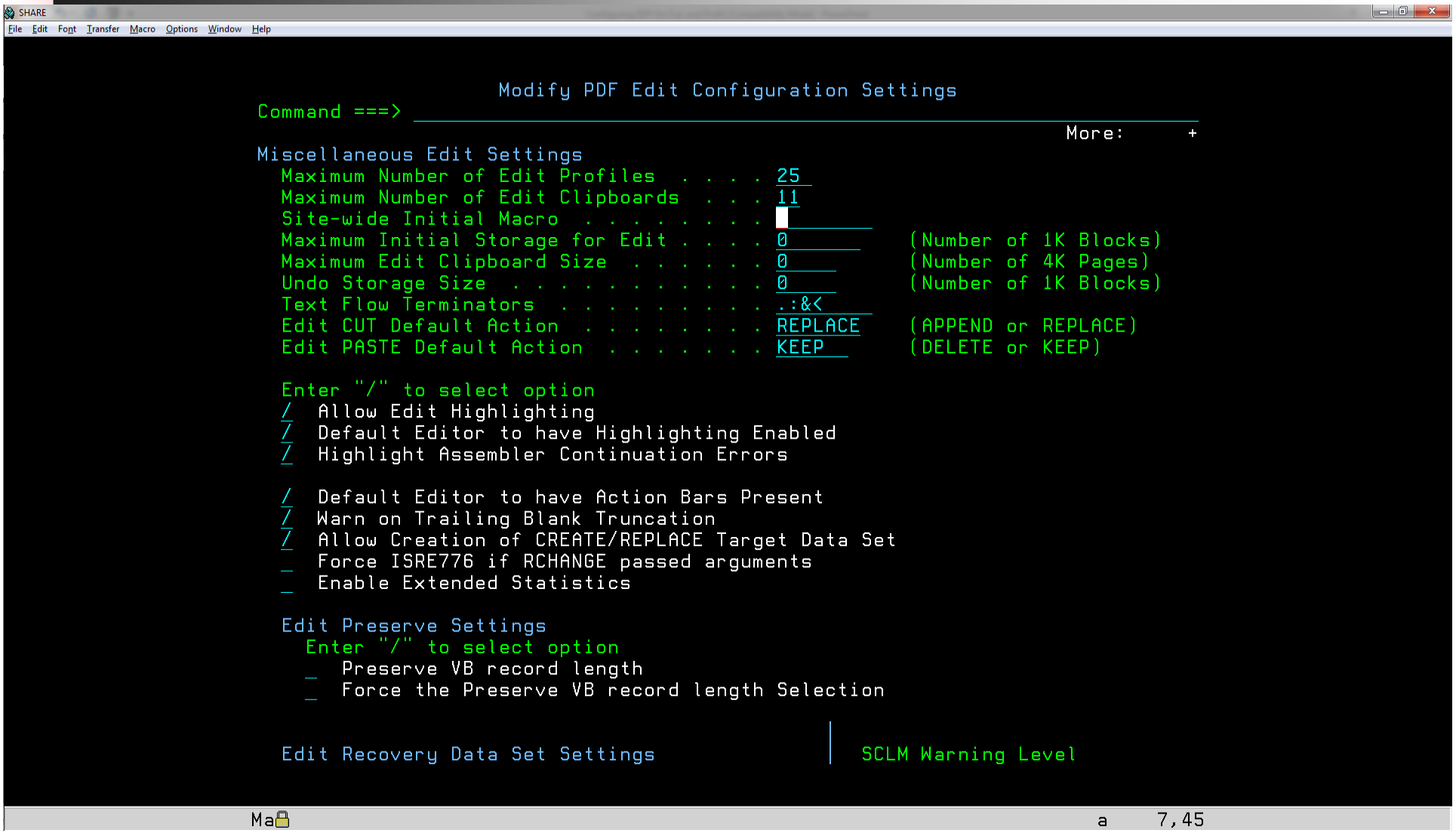
Create and Compile Keyword File



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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

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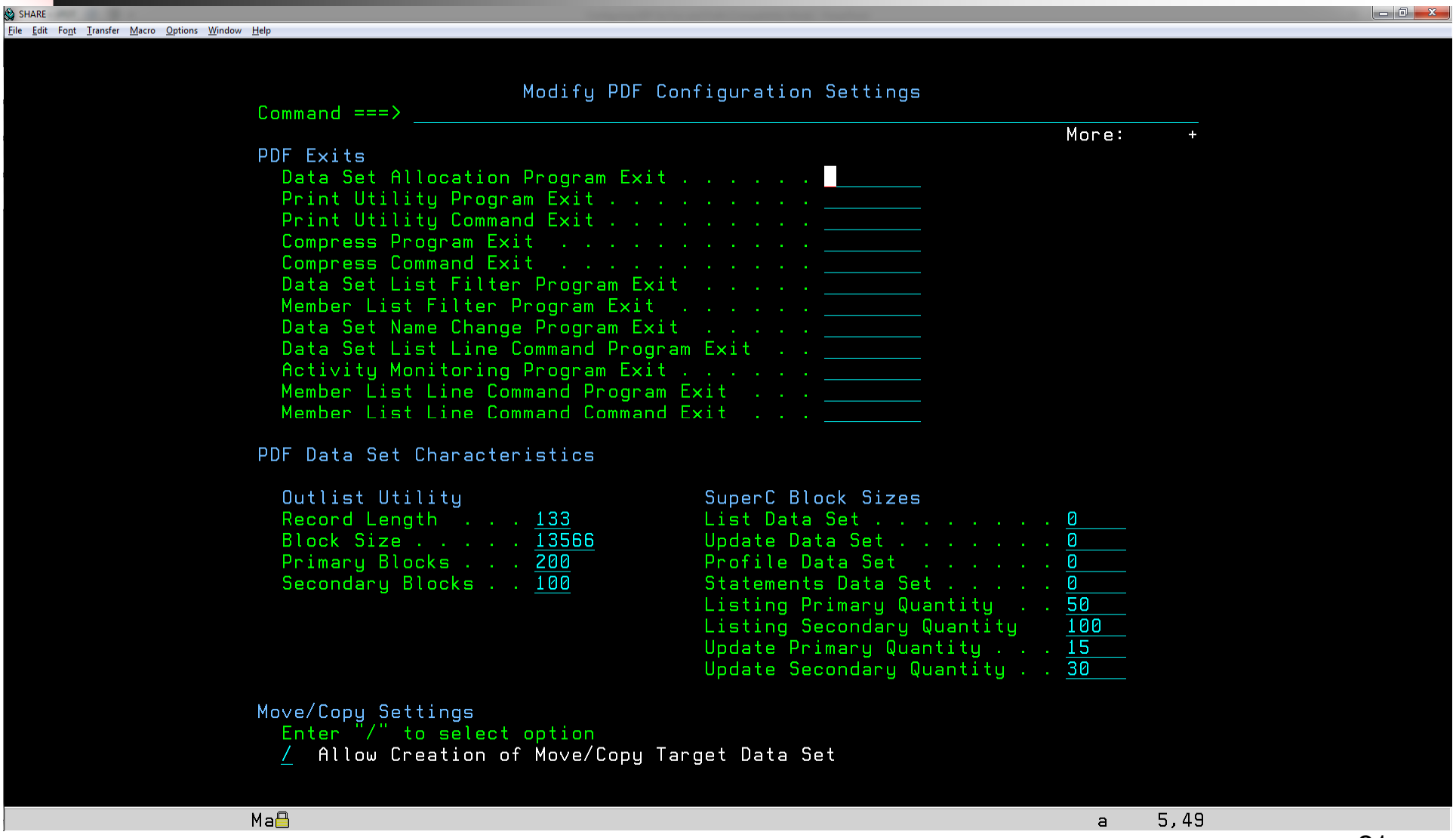
Create and Compile Keyword File



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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

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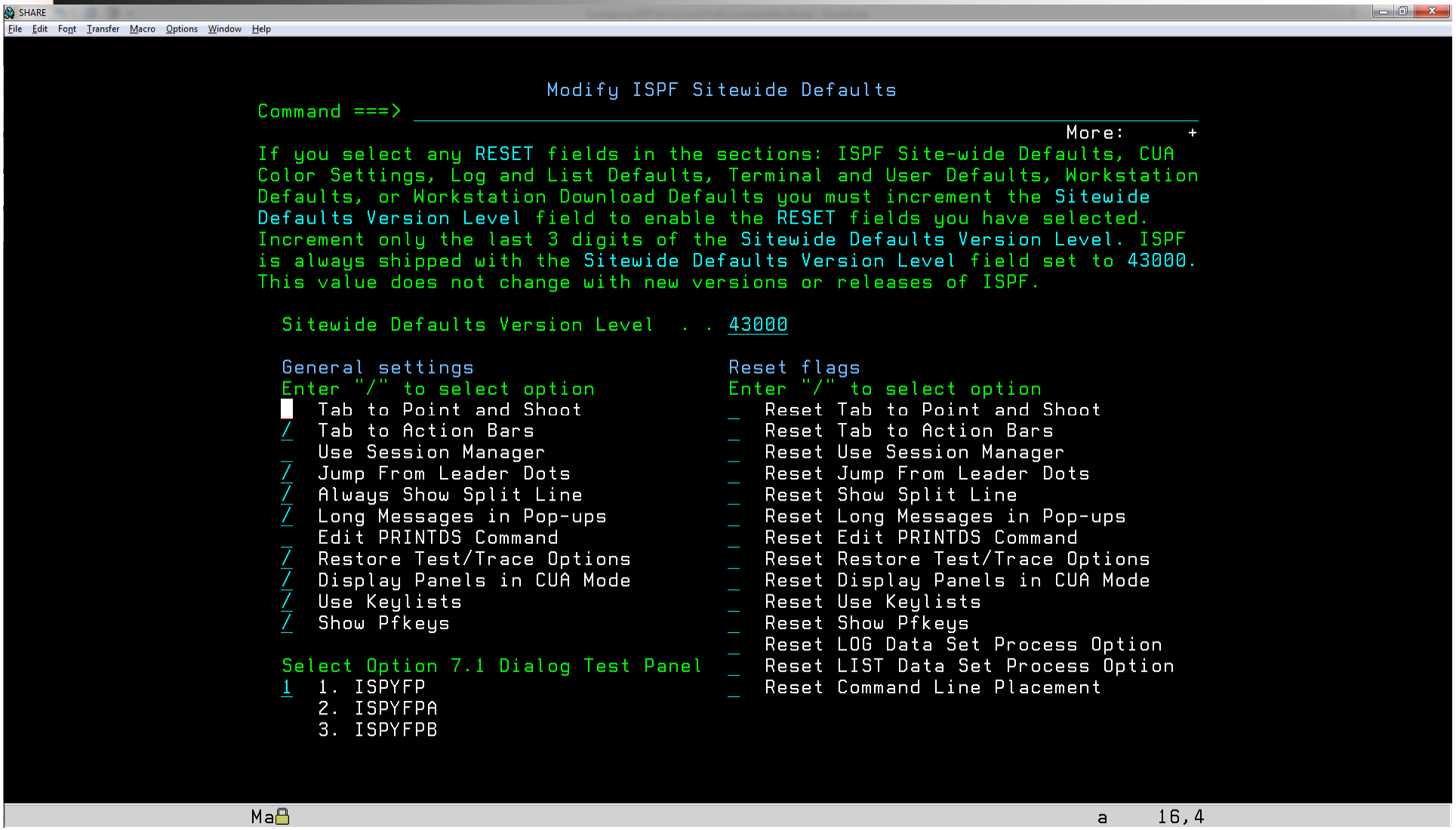
Create and Compile Keyword File



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Create and Compile Keyword File

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

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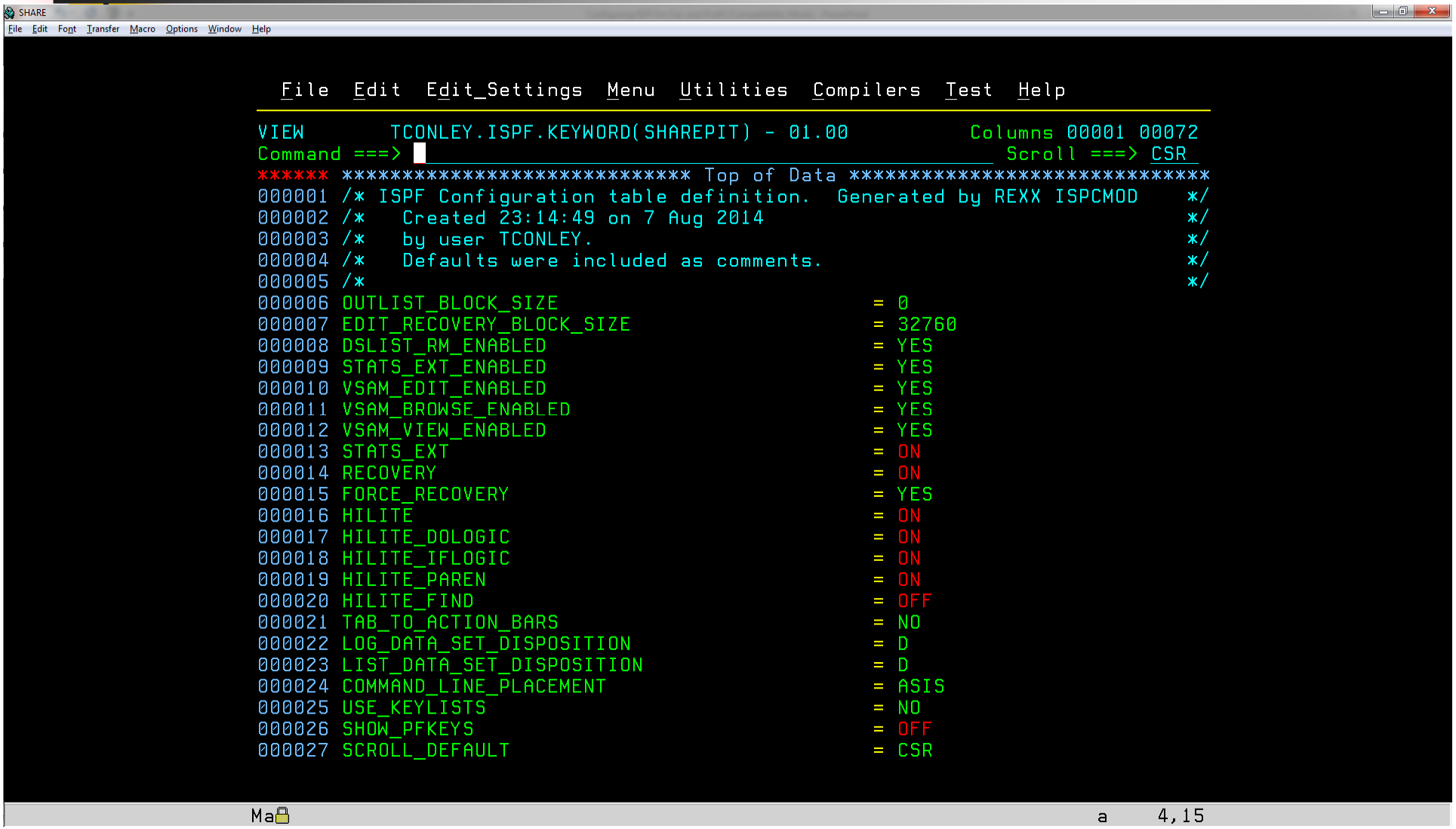
Create and Compile Keyword File



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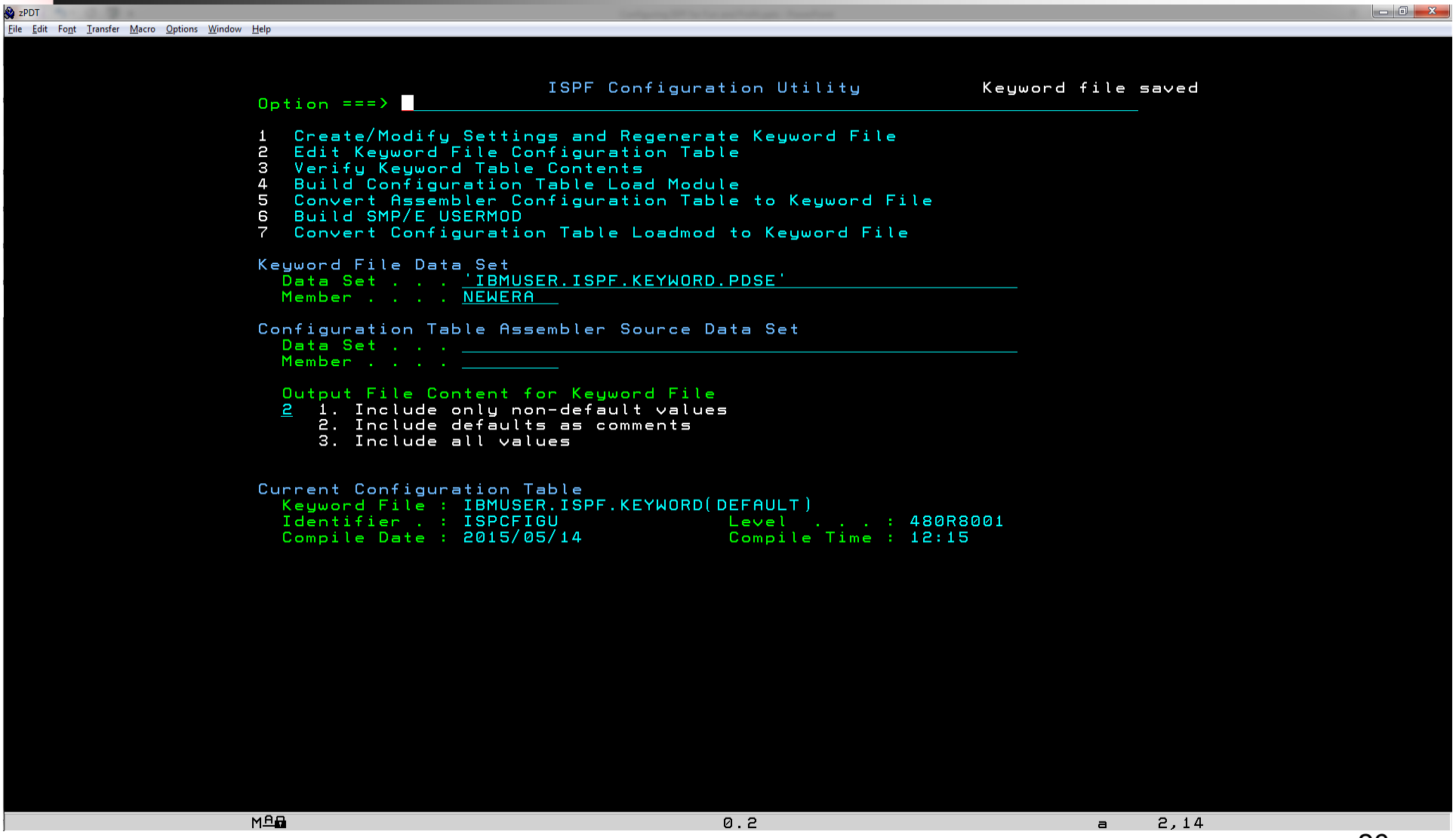
Create and Compile Keyword File



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Create and Compile Keyword File

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

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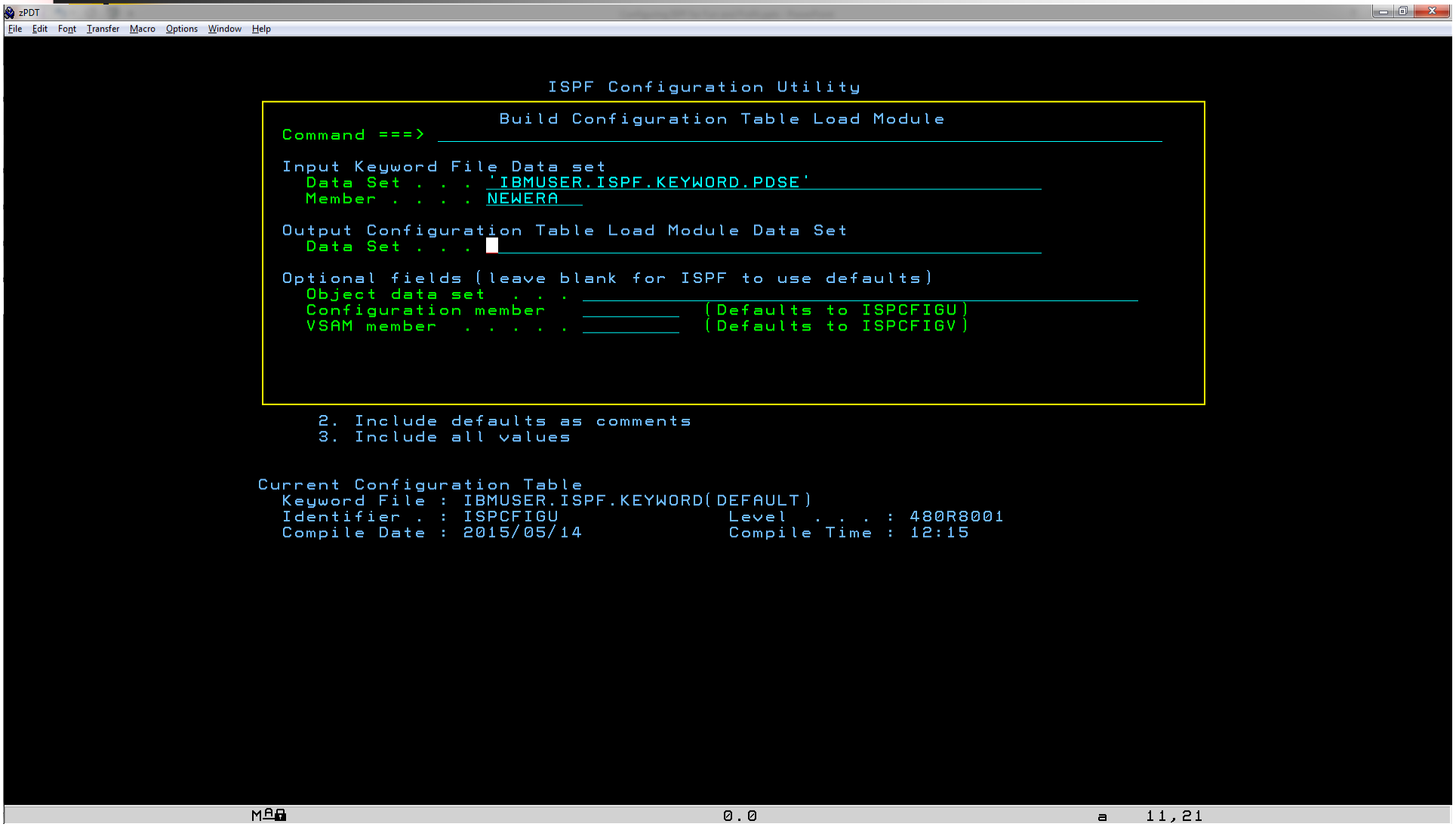
Create and Compile Keyword File



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Create and Compile Keyword File

- Recommend linklist load library for easy installation and maintenance in production; new defaults can be set with “F LLA,REFRESH” MVS command
- Testing with user loadlib before production will be shown in demo later
- Use default values for everything else
- Hit Enter to generate load modules
- Note message "Load module built"

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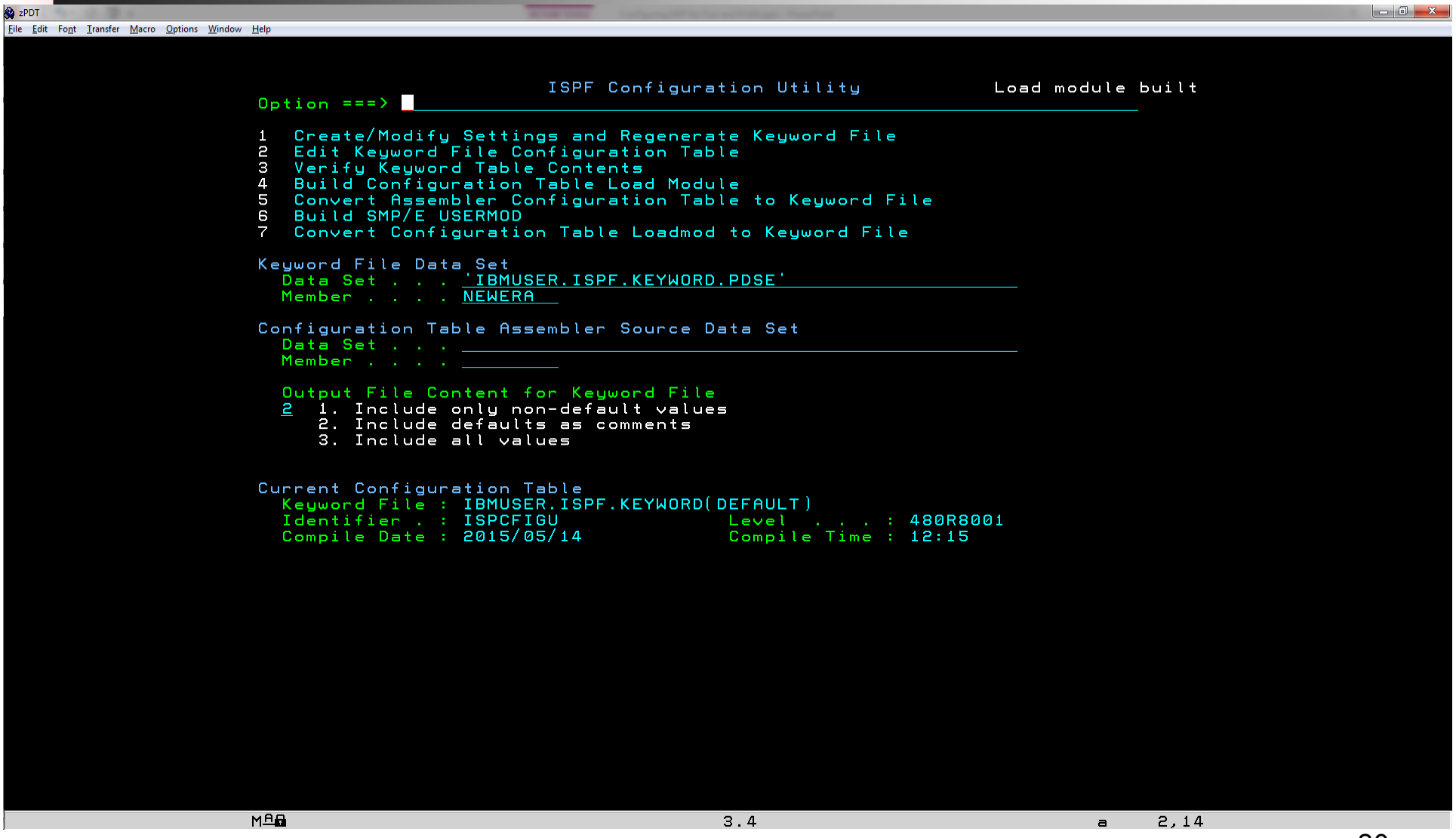
Create and Compile Keyword File



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Convert ISRCONFG to ISPCCONF

- Option “5” on ISPCCONF menu converts ISRCONFG to keyword table
- Not really relevant today, but if you have ISRCONFG source laying around and you’ve never run ISPCCONF…
- Assembler source for ISRCONFG MUST be assembler source
- ISRCONFIG usermod with JCL and SMP/E wrapped around it will not be recognized by ISPCCONF

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(DON'T) Build SMP/E USERMOD

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

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(DON'T) Build SMP/E USERMOD

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

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Recover Keyword File from ISPCFIGx

- New for z/OS V2R1, OA42680 added new option 7, Convert Configuration Table Loadmod to Keyword File
- Keyword file can be recovered if (when?) ISPF keyword file is lost or misplaced
- Very hot requirement!

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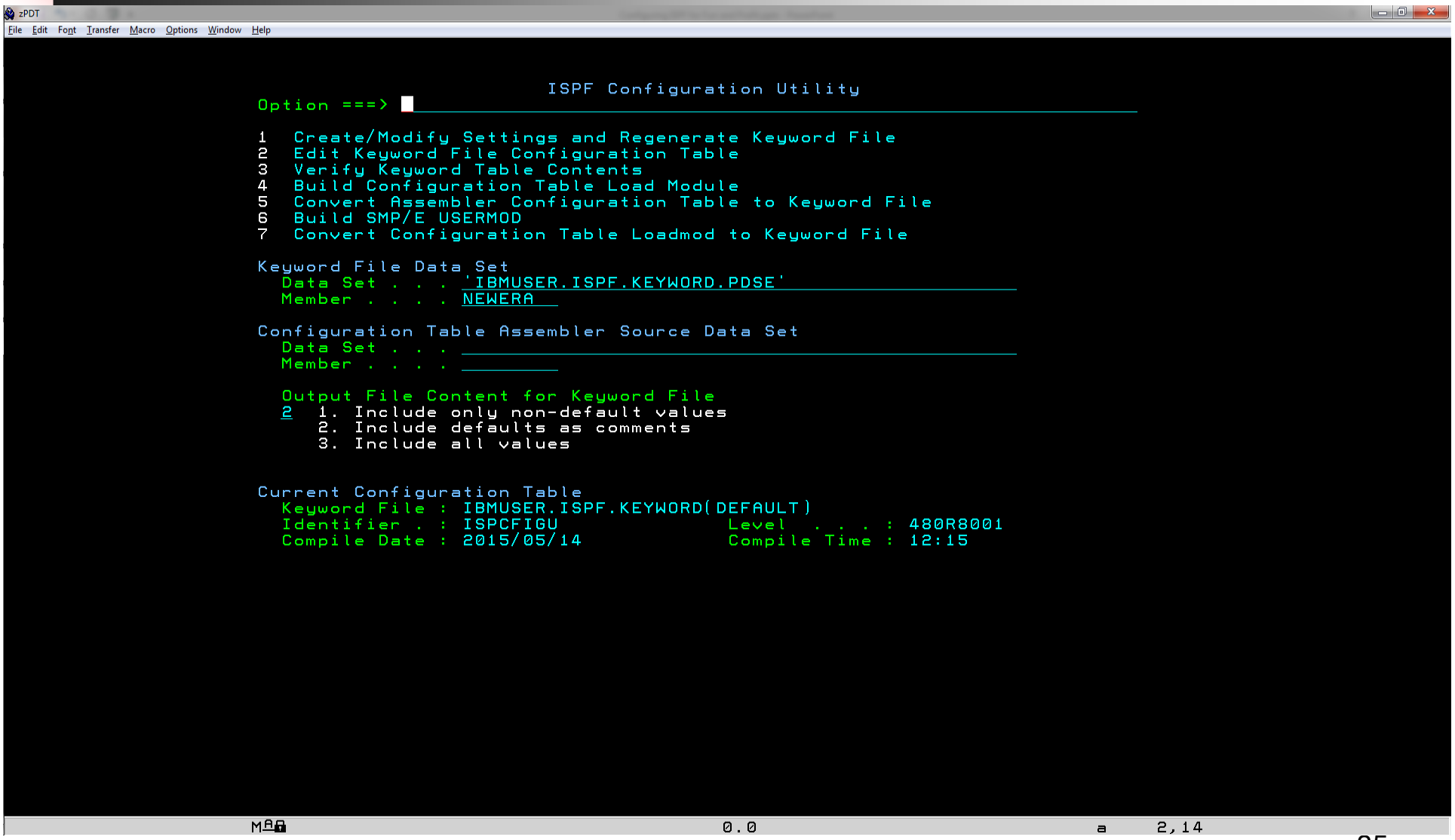
Recover Keyword File from ISPCFIGx



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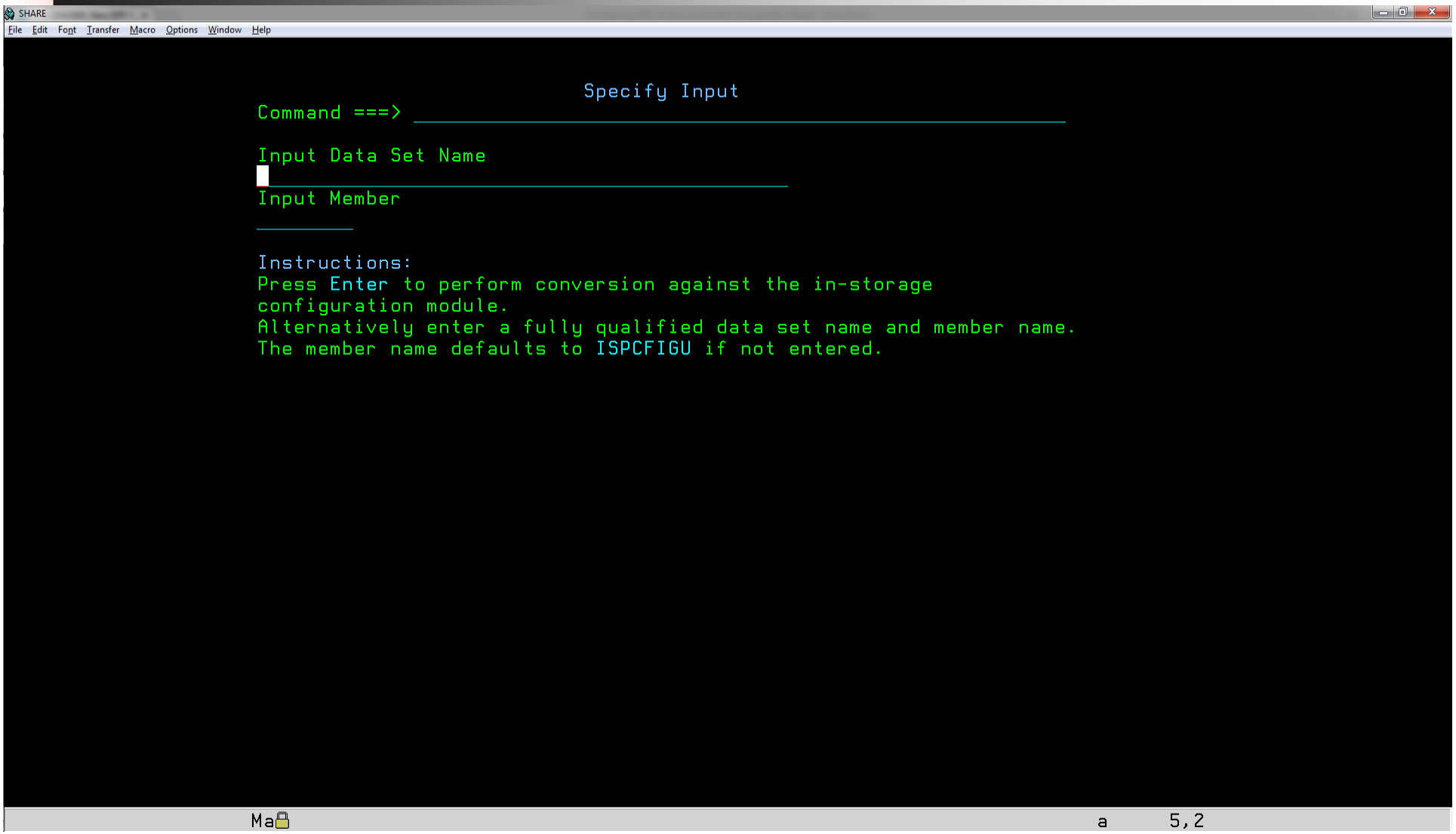
Recover Keyword File from ISPCFIGx



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Recover Keyword File from ISPCFIGx

- Enter specific load module dataset and member name, or simply hit Enter to decompile ISPCFIGx module(s) in memory

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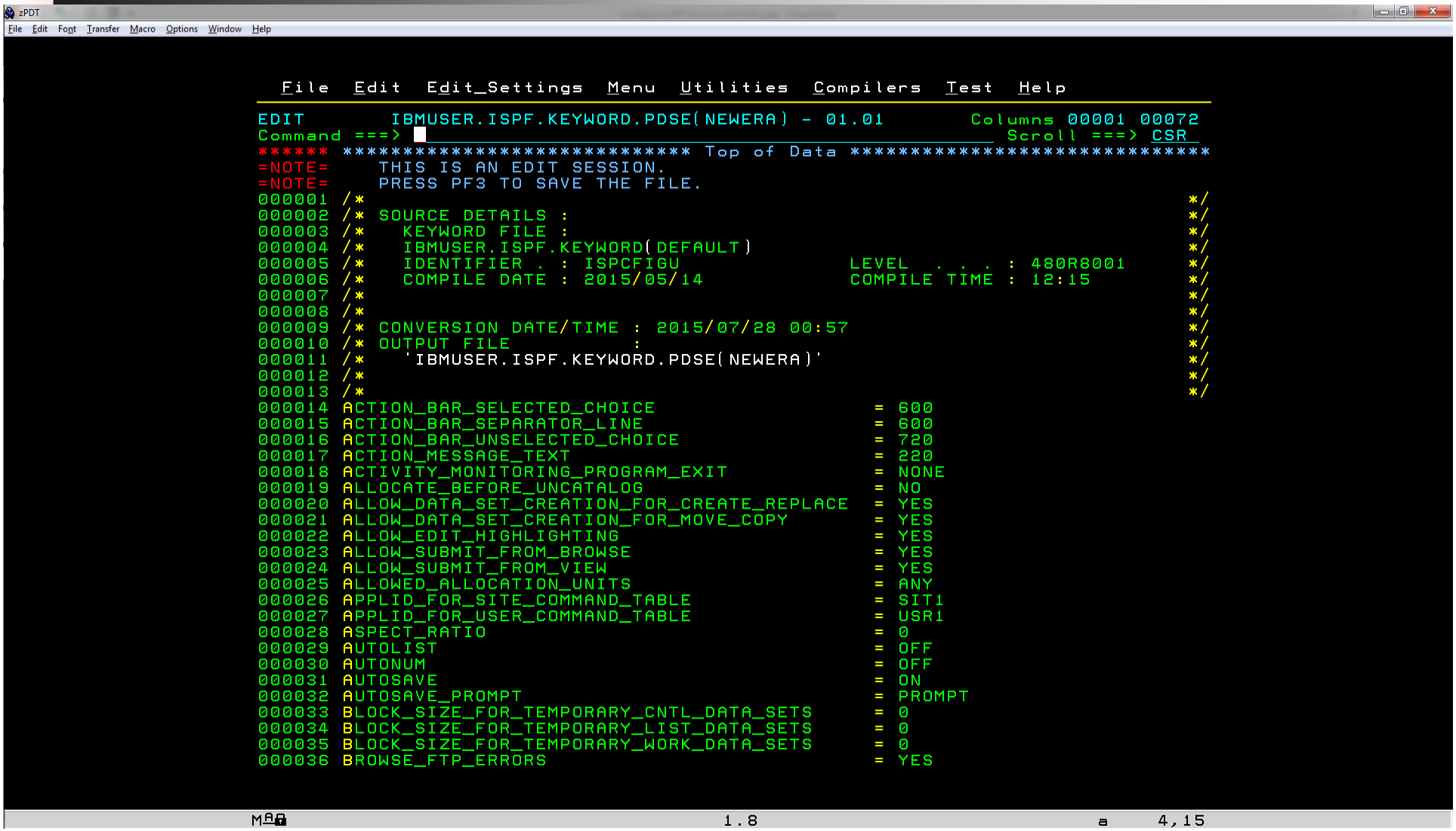
Recover Keyword File from ISPCFIGx



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Recover Keyword File from ISPCFIGx

- Resulting keyword file is simply alphabetical list of ISPF options
- In normal keyword file, options are grouped by function, with descriptive comments
- To create more usable keyword file, use this recovered keyword file to generate new keyword file
- Select option 1 from the ISPCCONF main menu to load recovered keyword file

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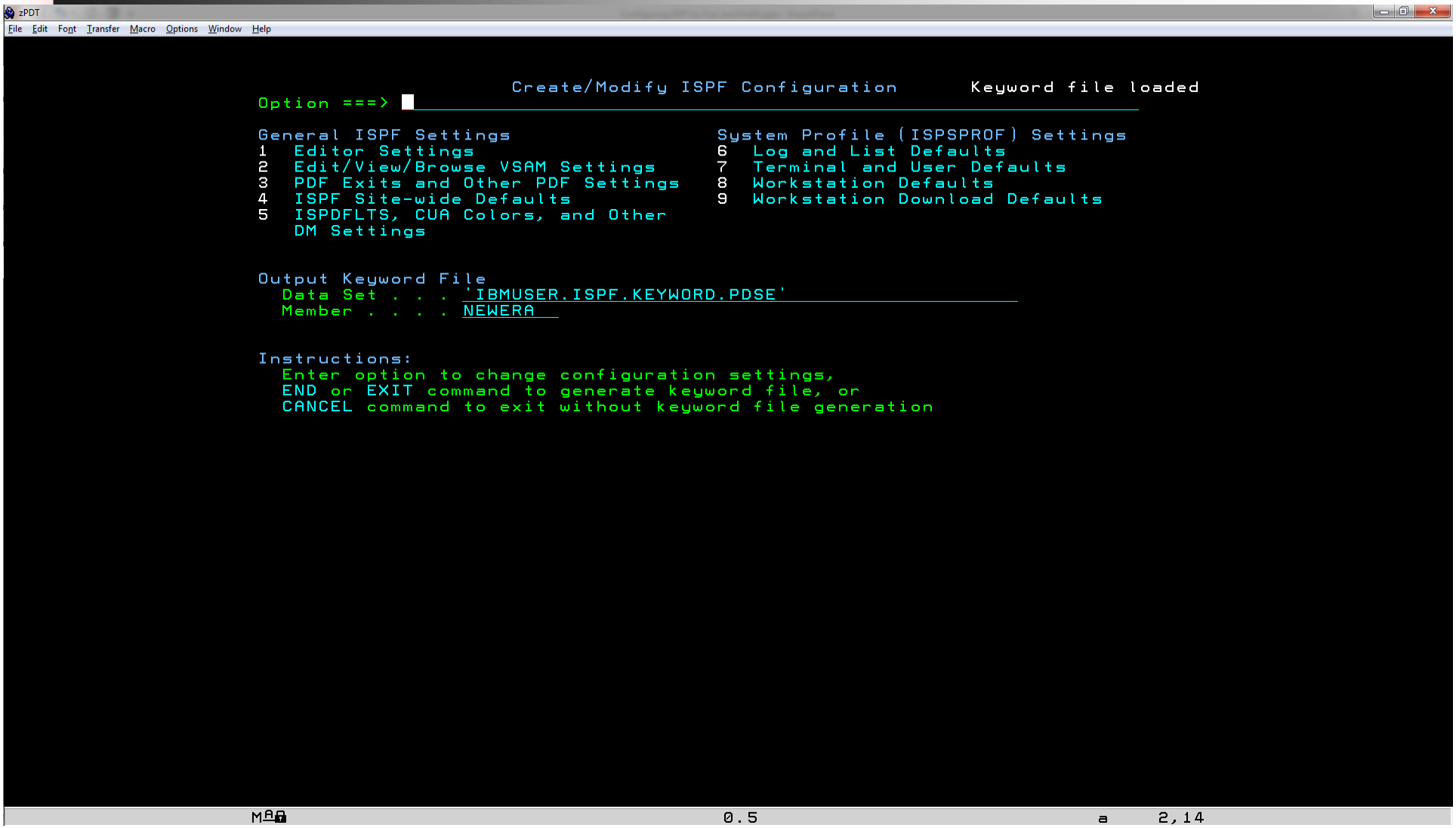
Recover Keyword File from ISPCFIGx



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Recover Keyword File from ISPCFIGx

- Note the "Keyword file loaded" message
- To generate the new keyword file, enter the END command (PF3 in most sites)

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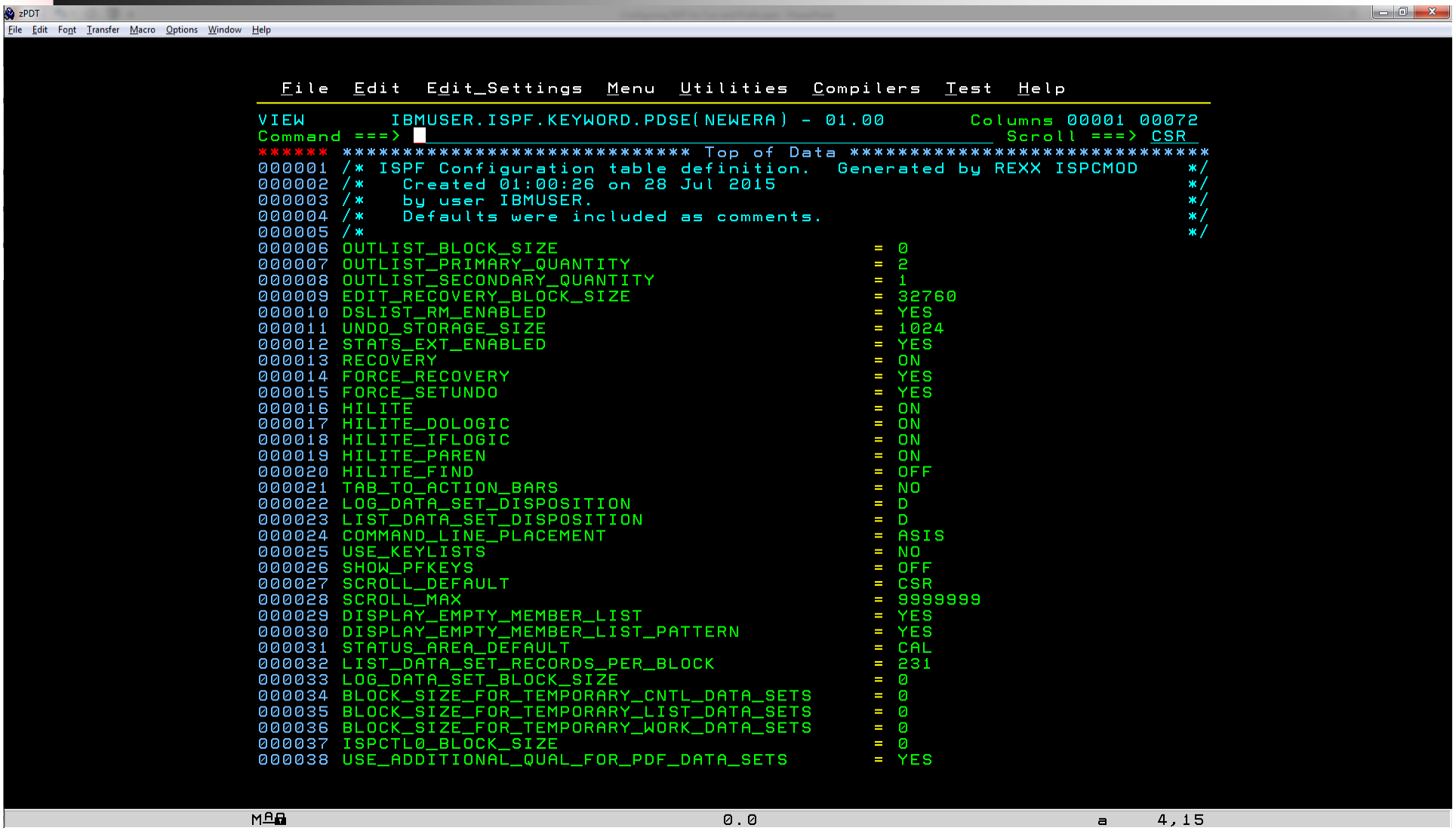
Recover Keyword File from ISPCFIGx



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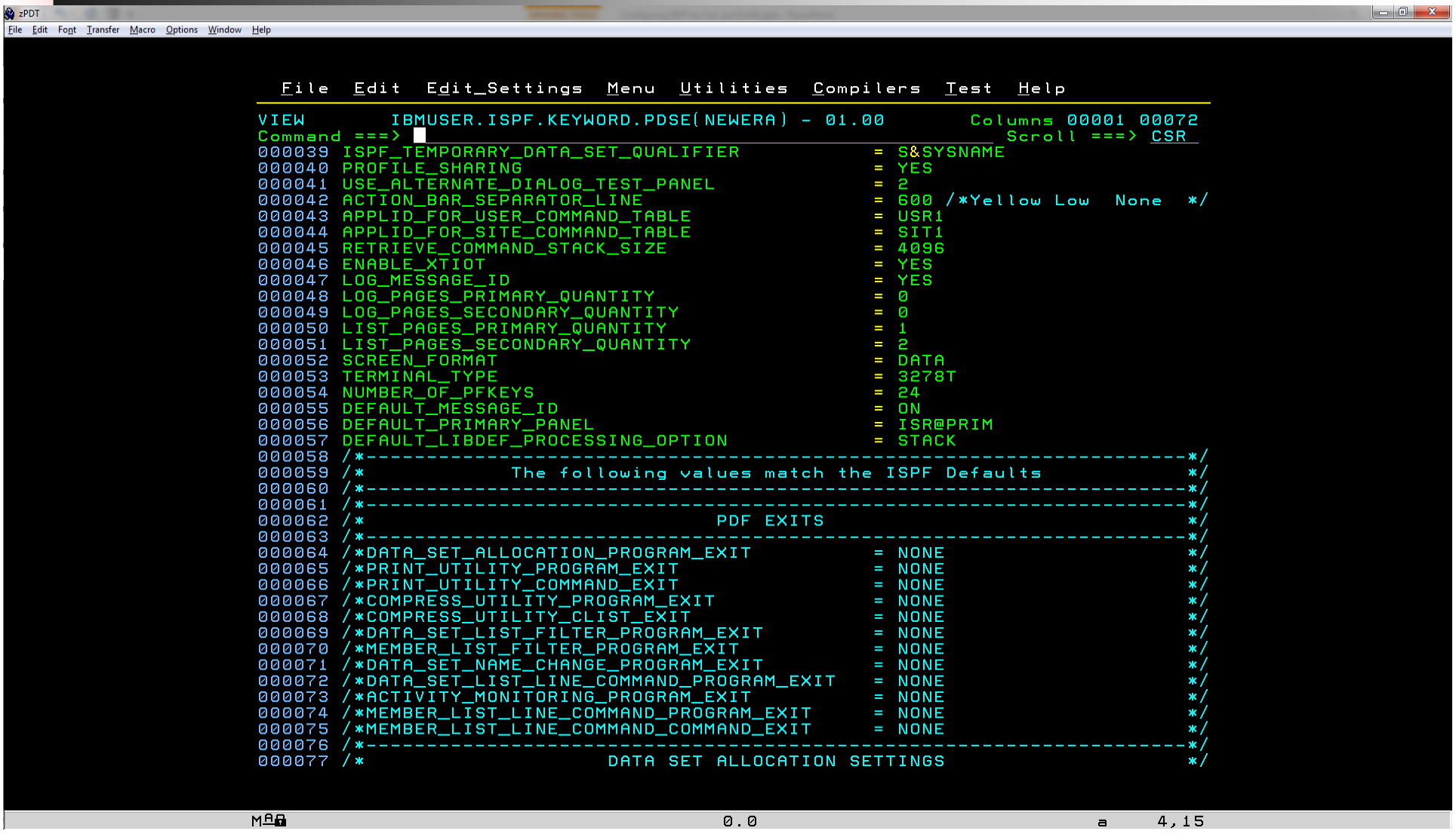
Recover Keyword File from ISPCFIGx



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Recover Keyword File from ISPCFIGx

- Note that new keyword file has flowerbox documentation around major sections
- Defaults now commented out, if that was specified on ISPCCONF main menu
- Enter END (PF3) again to save keyword file

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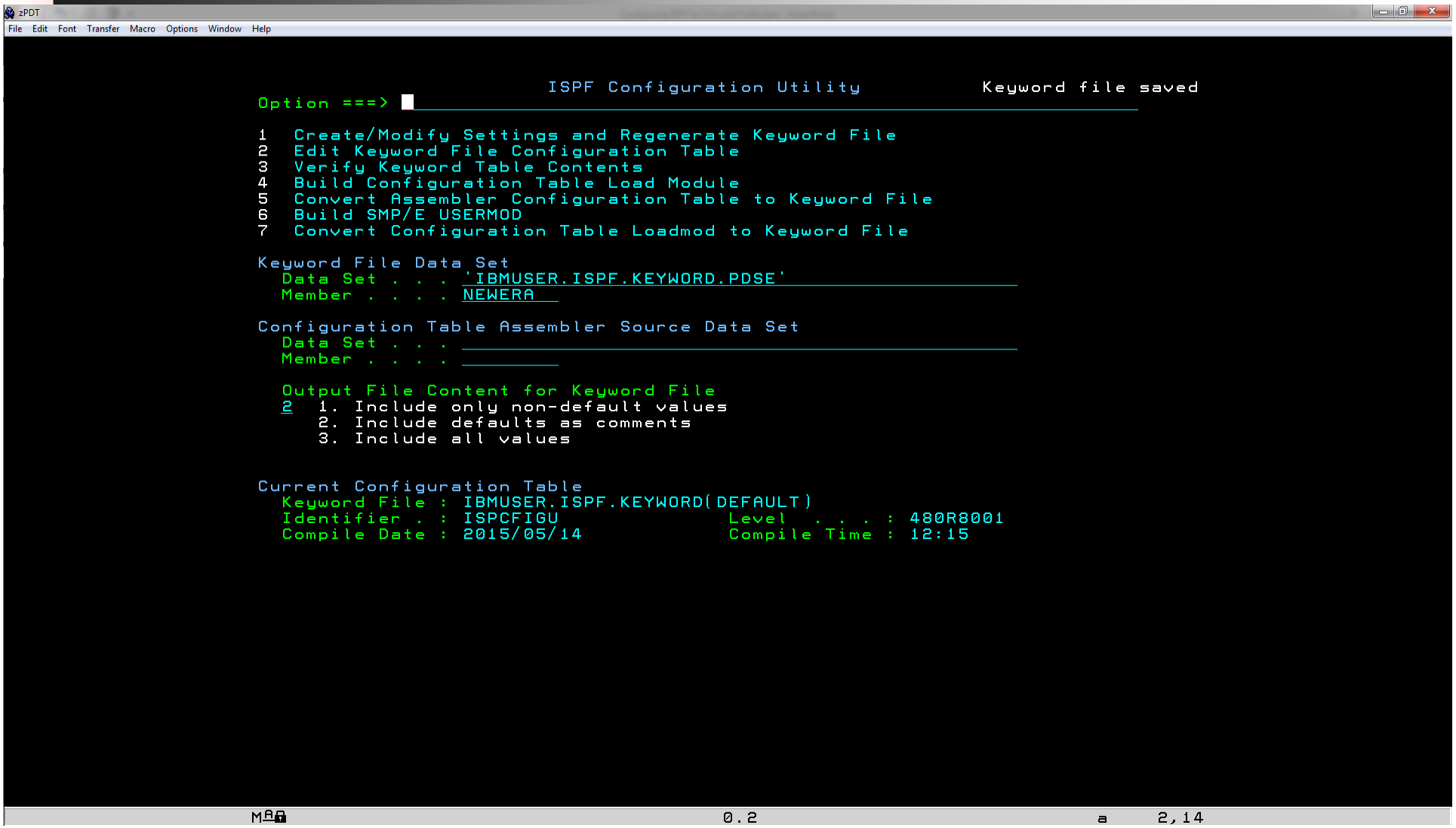
Recover Keyword File from ISPCFIGx



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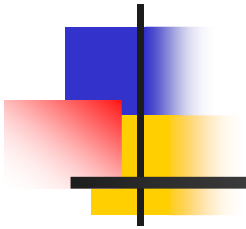

The WAC ISPF Configuration

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

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The WAC ISPF Configuration

- Option 1, Editor Settings
  - Enter 1024 for Undo Storage Size to enable SETUNDO KEEP (undo changes across SAVE)
  - Enter "/" for Enable Extended Statistics
  - Change edit recovery dataset blocksize to 32760 for better performance and space utilization
  - For edit options, enter "/" on STATS EXT for extended statistics, RECOVERY ON (safety, recovery, investment protection), uncheck NUMBER ON and change NULLS to NULLS ON ALL (increase user productivity in EDIT)

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The WAC ISPF Configuration

- Option 1, Editor Settings (cont'd)
  - Consider entering "/" to force RECOVERY ON setting (this is the only ISPF config parm that I recommend forcing or overriding)
  - In Edit Highlighting, enter "/" for HILITE ON, Highlight DO/END logic, Highlight IF logic, and Match parentheses (user productivity, but higher overhead; testing shows about an 8X increase in service units for HILITE, but there's no user-visible degradation)
  - Uncheck highlight FIND strings (personal preference, a lot of hits on one screen make data hard to read)

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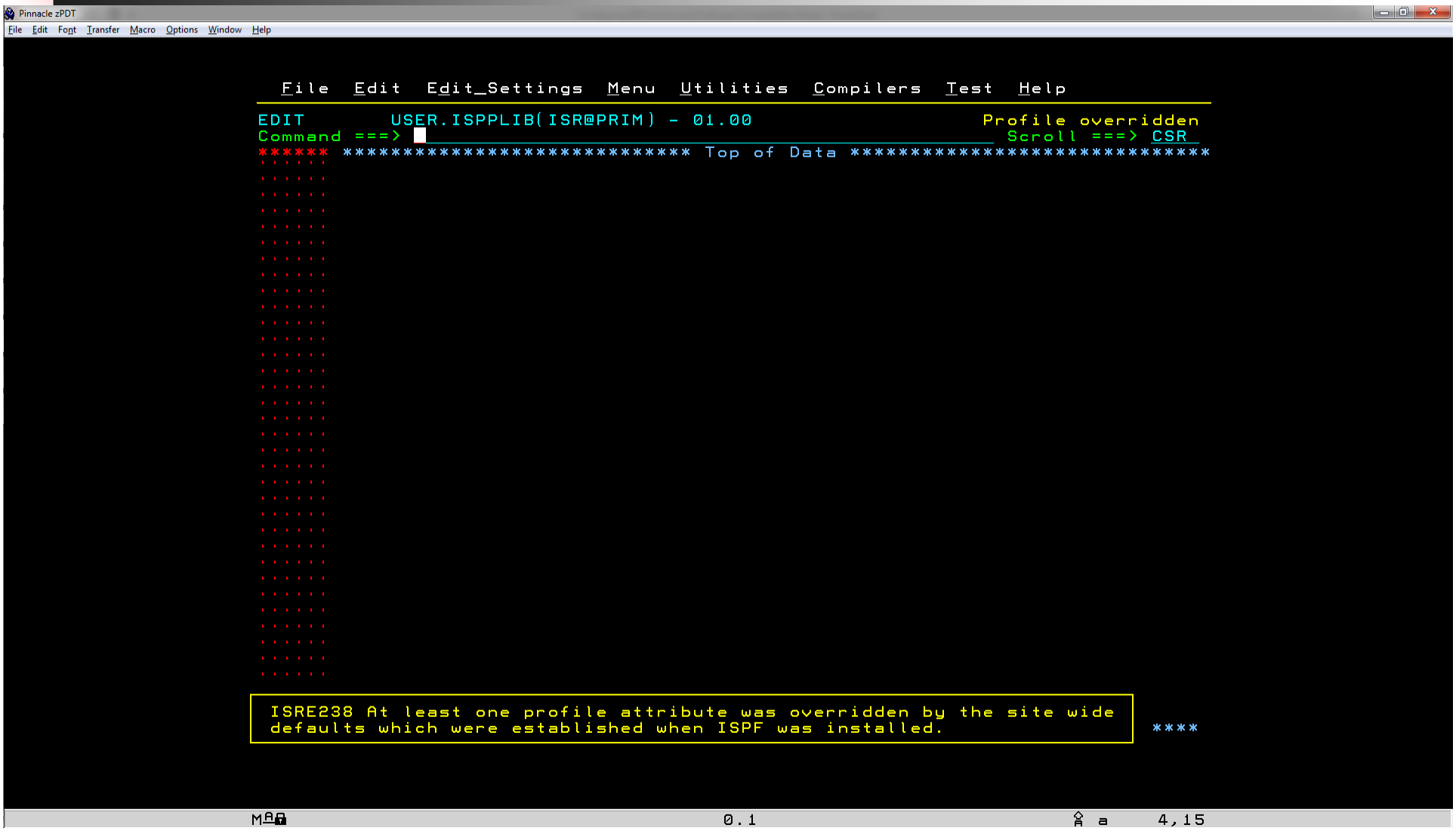
Result of FORCE Selection



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The WAC ISPF Configuration

- Option 2, Edit/View/Browse VSAM Settings
  - By default, VSAM Edit/View/Browse disabled
  - Command defaults set for IBM's File Manager
  - If you have VSAM Edit/View/Browse tool, enter its commands here to enable Edit/View/Browse for VSAM

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The WAC ISPF Configuration

- Option 3, PDF Exits and Other PDF Settings
  - Specify 0 (zero) for Outlist Utility Block Size to get SDB OUTLIST datasets
  - Specify "/" for Enable RM/Tape Commands, and specify appropriate RM/Tape Command and APPLID for your Tape Management System software (defaults are set for IBM's Removable Media Manager - DFSMSrmm)
  - If running storage manager other than HSM, modify the Volume for Migrated Data Sets and Delete Command for Migrated Data Sets fields for correct values

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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
  - New for z/OS V2R1, change Maximum Scroll Value to 9999999
  - For Empty Member List support, check Allow Empty Member List and Allow Empty Member List (nomatch)

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The WAC ISPF Configuration

- Option 4, ISPF Sitewide Defaults (cont'd)
  - 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 SDB
  - For LOG Data Set Process Option and LIST Data Set Process Option, specify "3" to Delete Without Printing (eliminates LOG/LIST prompt upon exiting ISPF)
  - Enter "/" for Use Additional Qualifier for PDF Output Data Sets

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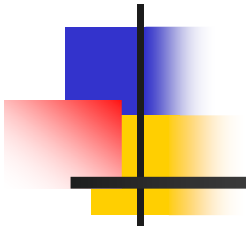

The WAC ISPF Configuration

- Option 4, ISPF Sitewide Defaults (cont'd)
  - 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)
  - To enable multiple logon support, create shared ISPF profile dataset and modify logon exec to allocate it

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The WAC ISPF Configuration

- Option 4, ISPF Sitewide Defaults (cont'd)
  - For more information regarding multiple logon, refer to my article in Enterprise Systems Journal:

    Simultaneous Logons to Multiple LPARs in a Sysplex
  - New for z/OS V2R1, you can enter an initial command for ISPF to process

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The WAC ISPF Configuration

- Option 5, ISPDFLTS, CUA Colors, and Other DM Settings
  - New for z/OS V2R1, Enable XTIOT support in ISPF (requires NON_VSAM_XTIOT in DEVSUPxx)
  - 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 (6)

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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

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The WAC ISPF Configuration

- Option 7, Terminal and User Defaults
  - Set Screen Format to MAX (take advantage of larger screen sizes), set Terminal Type to "6" for 3278T (better character set for square brackets, etc.)
  - Set Number of Keys to "2" for 24
  - Enter "/" for Message Identifier field to assist debugging

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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!

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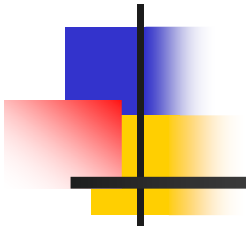

DEMO TIME!

- Create ISPCFIGU module in private user loadlib and test for completeness
  - Generate ISPCFIGU module in user loadlib
  - Return to READY
  - Rename existing profile dataset (assumes LOGON exec or exec invoking ISPF allocates new profile so ISPCFIGU will populate new defaults)
  - Issue TSOLIB command to activate the user loadlib
  - Issue CLIST to allocate new profile dataset and invoke ISPF

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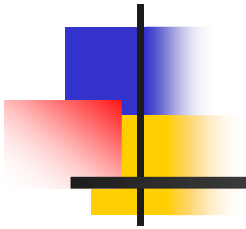

DEMO TIME!

- Synchronize your watches
- Time me
- GO!

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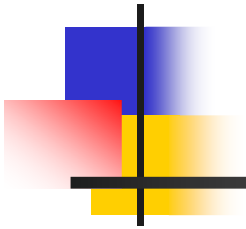

Summary

- Discussed ISPF Configuration History
- Reviewed ISRCONFG method 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

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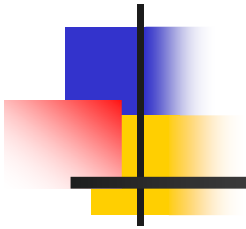

Summary

- Discussed recovery of a keyword file from ISPF Configuration Load Module
- Discussed WAC (World According to Conley) method for configuring ISPF

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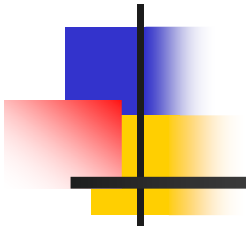

Finally…

- 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 pinncons@rochester.rr.com

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