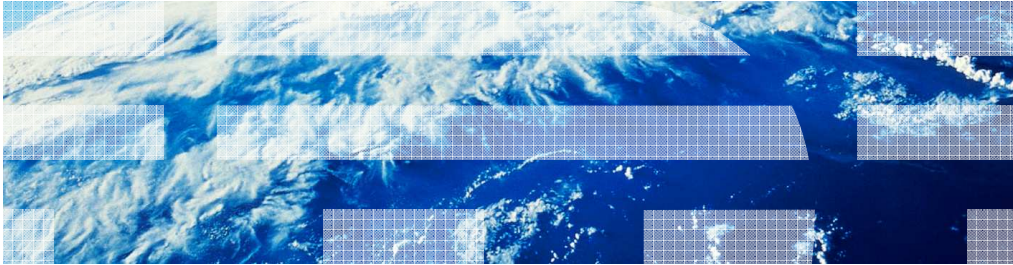


z/OS V1R13

ISPF: Editor support for line command macros



Session objectives

- Describe the enhancement to the ISPF editor to support the ability to run user-written line command macros
- Identify the reasons for this enhancement
- Understand how to use this enhancement
 - Invocation
 - Functional content
 - Associated publications and references

The purpose of this presentation is to describe the Simplification enhancement to ISPF for z/OS V1R13 to support the ability for users to write edit macros that are invoked as editor line commands. The presentation will describe the enhancement, identify the reasons for implementing the enhancement, and help you understand how to use the enhancement.

Overview

- Problem Statement / Need Addressed
 - Unsupported LMAC tool provides the capability and has been used by ISPF users for many years
 - LMAC requires changes when the editor adds new line commands
- Solution
 - Integrate the support provided by LMAC into the ISPF editor
- Benefit / Value
 - User-written line command macros are now supported by IBM
 - Integration of support into the editor provides a better solution than LMAC
 - No need for sites and users to download and install the LMAC tool

The functionality for user-written line command macros has been available for many years by installing the LMAC tool. LMAC is available to download from IBM but it is not officially supported.

If the ISPF editor add new line commands the LMAC tool needs to be changed since it needs to be aware of line commands that the editor supports

To give all ISPF users the ability to invoke user-written edit macros as line commands, the support provided by LMAC is integrated into the ISPF editor

Usage and invocation

- User defined line commands and the edit macros they invoke are defined in an ISPF table
- The ISPF Table Utility (ISPF option 3.16) is modified to assist with defining the user line command table
- New line command table input field is added to the edit and view entry panels
 - When the line command table is specified the line commands specified in the table are able to be used during the edit session
- The EDIT and VIEW services also allow a line command table to be passed by the caller

The ISPF editor reads an ISPF table to get the information about the user defined line commands and the associated macros

The ISPF Table Utility provides an option that helps in defining a user line command table

The user specifies the name of their line command table on the edit and view entry panels

A dialog calling the EDIT or VIEW services can pass the name of a line command table

Usage and invocation

- Option added to the ISPF Table Utility (ISPF option 3.16) entry panel to help users create and edit line command tables:

```
Menu RefList Utilities Options Help
ISRUTBP0                               ISPF Table Utility
Option ==> [ ]
blank Display table list                E Edit table
B Browse table                          I Import table data

Enter one of the parameters below:
Table Data Set . . . _____
or Table DD . . . ISPTLIB (Default is ISPTLIB)
Table Name . . . USERELCM (Blank or pattern for table selection list)
Import Data Set _____

Enter "/" to select option
Open table in SHARE mode
/ Table is an EDIT line command table
```

Changes have been made to the ISPF Table Utility to help users define EDIT line command tables

To use this enhancement the option 'Table is an EDIT line command table' must be selected on the ISPF Table Utility entry panel.

Usage and invocation

- Special format of the table edit panel displayed showing columns specific to a user edit line command table:

```

Options Help
ISRUTBP3          ISPF EDIT Line Command Table  USERELCM      Row 1 to 4 of 4
Command ==> |
Scroll ==> CSR
Shift ==> PAGE

  User      MACRO   Program  Block   Multi   Dest
  Command   Macro   format   line
  -----
  CE        POSLINE  N        Y        Y        Y
  RV        POSLINE  N        Y        Y        Y
  LEF       POSLINE  N        Y        Y        Y
  RIT       POSLINE  N        Y        Y        Y
  ***** Bottom of data *****

```

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The table edit panel displays table columns that are specific to a user edit line command table.

The screen shows the rows for user edit line command table USERELCM.

The table contains rows for line commands CE, RV, LEF, and RIT.

Each of these line commands is processed by the edit macro POSLINE.

Usage and invocation

- A row in a user edit line command table contains the following columns:

<u>Column</u>	<u>Description</u>
User Command	The line command value. Must not conflict with ISPF editor line commands.
MACRO	The name of the edit macro to be run when the specified edit line command is entered.
Program Macro	Y – the macro is a program N – the macro is a CLIST or Rexx
Block format	Y – the line command support a block format indicated by repeating the last character of the command N – block format is not supported
Multi line	Y – the line command supports processing a range of line by providing a numeric suffix with the command N – processing a range of line is not supported
Dest used	Y – the line command also required a destination line command N – no destination command is needed

Each row of the user edit line command table describes the characteristics of each user-written line command

This information is used by the editor when processing a user-written line command

Usage and invocation

- The Rexx edit macro POSLINE that processes the user edit line commands CE, RV, LEF, and RIT:

```

ISREDD2      VANDYKE.EXEC(POSLINE) - 01.01      Columns 00001 00080
Command ==> |                               Scroll ==> CSR_
***** ***** Top of Data *****
000001 /* Rexx - process the CE, RV, LEF, and RIT line commands */
000002 /* */
000003 /* CE Center text on a line */
000004 /* RV Reverse text on a line */
000005 /* LEF Move text all the way left */
000006 /* RIT Move text all the way right */
000007 /* */
000008 Address ispfedit /* Start of macro */
000009 "MACRO (PARM) NOPROCESS" /* Get line command */
000010 Address ispxec "CONTROL ERRORS RETURN" /* Return ispf errors */
000011 If wordpos(parm,"CE RV LEF RIT") = 0 Then /* If not a command */
000012 Do /* we expect */
000013     zinfo=parm /* Set up for message */
000014     Address ispxec "SETMSG MSG(ISRE041)" /* Invalid command */
000015     Exit 8 /* let ISPF handle the error */
000016 End /* */
000017 "PROCESS RANGE" parm /* Get range for command */
000018 If rc>0 Then /* If something went wrong */
000019 Do /* */
000020     Address ispxec "SETMSG MSG(ISRZ002)" /* Set ISPF's message */
000021     Exit 8 /* Let ISPF handle the error */
000022 End /* */
000023 "(START) = LINENUM .ZFRANGE" /* Get 1st line number in the range */
000024 "(STOP) = LINENUM .ZLRANGE" /* Get last line number in the range */
000025 "(DW) = DATA_WIDTH" /* Get the width of the editable data */
000026 Do a = start To stop /* Loop through the range of lines */
000027     "(LINE) = LINE "a /* Get old line value */
000028     SELECT /* process the command for this line */
000029     When(parm = "CE") Then line=center(strip(line),dw) /* Center */
000030     When(parm = "RV") Then line=reverse(line) /* Reverse */
000031     When(parm = "LEF") Then line=strip(line,"L") /* Left justify */
000032     When(parm = "RIT") Then line=right(strip(line,"I"),dw) /* Right */
000033     Otherwise Nop /* Justify */
000034     End /* Otherwise no op (shouldn't get here) */
000035     "LINE "a" = (LINE)" /* Set new line value */
000036 End /* End of loop through lines */
000038 exit 0 /* Return to ISPF */
***** ***** Bottom of Data *****

```

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A sample edit macro to handle processing of the user line commands CE, RV, LEF, and RIT.

The line commands perform the following functions:

CE – center the text on the line

RV – reverse the text on the line

LEF – shift the text to the very left of the line

RIT – shift the text to the very right of the line

Usage and invocation

- Specify a user line command table on the edit or view entry panel to enable user line commands for the edit session:

```

Menu  RefList  RefMode  Utilities  Workstation  Help
-----
ISREDM01                      Edit Entry Panel
Command ==> █

ISPF Library:
Project . . . . PDFTDEV
Group . . . . SIG . . . . INT . . . . SVT . . . .
Type . . . . PANELGEN
Member . . . .
                (Blank or pattern for member selection list)

Other Partitioned, Sequential or VSAM Data Set, or z/OS UNIX file:
Name . . . . TEXT
Volume Serial . . . . (If not cataloged)

Workstation File:
File Name . . . .

Initial Macro . . . .
Profile Name . . . .
Format Name . . . .
Data Set Password . . . .
Record Length . . . .
Line Macro Table . . . . USERELCM

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

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Specifying a table name in the User Macro Table field of the edit or view entry panels causes the line commands defined in that table to be available for the edit session.

Usage and invocation

- Using the CE, RV, LEF, and RIT line commands from the sample user line command macro:

```

ISREDDE2  VANDYKE.TEXT                               Columns 00001 00080
Command ==>                                         Scroll ==> CSR
*****
***** Top of Data *****
ce 001      data to the center
000002
rv 003      data to be reversed
000004
lef 05      data to the left
000006
rit 07      data to the right
*****
***** Bottom of Data *****

```

```

ISREDDE2  VANDYKE.TEXT                               Columns 00001 00080
Command ==>                                         Scroll ==> CSR
*****
***** Top of Data *****
000001      data to the center
000002
000003      desrever eb ot atad
000004
000005      data to the left
000006
000007      data to the right
*****
***** Bottom of Data *****

```

A sample edit sessions showing the use of user-written line commands CE, RV, LEF, and RIT.

Usage and invocation

- The EDIT and VIEW services support the new LINECMDS parameter to allow the caller to specify a user-written line command table to be used for the edit session:

```
ISPEXEC EDIT DATASET('USER.TEXT') LINECMDS(ULCMDS)
```

Callers of the EDIT and VIEW services can pass a user edit line command table for use during the edit session via the LINECMDS parameter

Interactions and dependencies

- None

Migration and coexistence considerations

- The editor support for user line commands coexists with the LMAC tool
 - If LMAC is active the editor will give LMAC the first opportunity to process a user defined line command
 - Edit macros written to process line commands with the LMAC tool will also work with the new user line command support

The LMAC tool will continue to work with the new user edit line command support.

The editor will give LMAC precedence to process a user written line command

Edit macros developed for LMAC will also work with the new user edit line command support

This should simplify the process of existing LMAC users transitioning to the new user edit line macro support



Installation

- None

Session summary

- Support to define and run user defined edit line command commands has been added into the ISPF editor
- This support was previously available using the unsupported LMAC tool

Appendix - References

- Publication changes
 - SC34-4819 ISPF Services Guide
 - Describes the new LINECMDS parameter for the EDIT and VIEW services
 - SC34-4820 ISPF Edit and Edit Macros
 - Describes how to define and invoke user edit line commands



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