

z/OS 3.1 IBM Education Assistant

Solution Name: Pervasive Data Set Encryption

Solution Element(s): ISPF

July 2023



Agenda

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- Upgrade & Coexistence Considerations
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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None

Objectives

- Support the allocation of encrypted data sets from the ISPF 3.2 allocation panel. The DFSMS supported data sets that will be eligible include:
 - Sequential
 - PDSEv2
 - VSAM
- This is to address Idea ZOS-I-1893 “ISPF 3.2 support for DSKEYLBL”.

Overview

- Who (Audience)
 - System administrators
- What (Solution)
 - Data set encryption is supported on several existing ISPF panels via a new Data Set Key Label field
- Wow (Benefit / Value, Need Addressed)
 - Previously encrypted data sets could only be allocated via TSO or using JCL.

Usage & Invocation

- Sequential and PDSEv2 data sets can be encrypted via the 3.2 panels ISRUUASE and ISRUAAP2. A new “**key label**” field has been added to these panels. Additionally, the “**Multiple Volumes**” field has been moved up under “**Volume serial**” which is a more appropriate location. These panels require 2 screens and are shown on the next several slides...

Usage & Invocation (panel ISRUDA2S)

- Option 3.2 Panel

Session C - [27 x 132]

File Edit Settings View Communication Actions Window Help

Icons Copy Paste Send Recv Display Color Map Record Stop Play Quit Support Index

Menu RefList Utilities Help

MVS234 ISRUDA2S Data Set Utility

Option =====>

A Allocate new data set
B Restore deleted data set
C Catalog data set
D Delete entire data set
blank Data set information
U Uncatalog data set
J Show data set information
V VSAM Utilities

ISPF Library:

Project . . . MYPROJ
Group . . . DEV
Type . . . FILE

Enter "/" to select option
/ Confirm Data Set Delete

Other Partitioned, Sequential or VSAM Data Set:

Name
Volume Serial (If not cataloged, required for option "C")
Data Set Password (If password protected)

F1=Help F2=Split F3=Exit F4=NRetriev F5=Retrieve F6=Cretriev
F7=Backward F8=Forward F9=Swap F10=Actions F12=Cancel

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Usage & Invocation (panel ISRUAASE 1)

- ISRUAASE allocation panel screen 1

Session A - [27 x 132]

File Edit Settings View Communication Actions Window Help

PGM Copy Paste Send Recv Display Color Map Record Stop Play Quit Support Index

Menu RefList Utilities Help

MVS234 ISRUAASE Allocate New Data Set

Command ==> _____ More: +

Data Set Name . . . : DEITRIC.FILES.TESTDS

Management class . . . _____ (Blank for default management class)

Storage class . . . _____ (Blank for default storage class)

Volume serial . . . : CPDLB1 (Blank for system default volume) **

Multiple Volumes _____ Enter '/' to select option

Device type . . . _____ (Generic unit or device address) **

Data class . . . _____ (Blank for default data class)

Space units . . . : BLOCK (BLKS, TRKS, CYLS, KB, MB, BYTES or RECORDS)

Average record unit _____ (M, K, or U)

Primary quantity . . : 56 (In above units)

Secondary quantity . : 20 (In above units)

Directory blocks . . : 12 (Zero for sequential data set) *

Record format . . . : VB

Record length . . . : 80

Block size . . . : 27998

Data set name type PDS (LIBRARY, PDS, LARGE, BASIC, * EXTREQ, EXTPREF or blank)

Data set version . . : _____

F1=Help F2=Split F3=Exit F4=NRetrieval F5=Retrieve F6=Cretrieve

F7=Backward F8=Forward F9=Swap F10=Actions F12=Cancel

08/051

Connected through TLS1.2 to secure remote server host pokunq.pok.ibm.com using port 992

Usage & Invocation (panel ISRUAASE 2)

- ISRUAASE allocation panel screen 2

Session A - [27 x 132]

File Edit Settings View Communication Actions Window Help

PeScom Copy Paste Send Recv Display Color Map Record Stop Play Quit Support Index

Menu RefList Utilities Help

MVS234 ISRUAASE Allocate New Data Set

Command —>

More: -

Primary quantity . . . 58 (In above units)

Secondary quantity . . . 20 (In above units)

Directory blocks . . . 12 (Zero for sequential data set) *

Record format . . . VB

Record length . . . 80

Block size . . . 27998

Data set name type PDS (LIBRARY, PDS, LARGE, BASIC, * EXTREQ, EXTPREF or blank)

Data set version . . : -

Num of generations : -

Extended Attributes - (NO, OPT or blank)

Expiration date . . . - (YY/MM/DD, YYYY/MM/DD YY.DDD, YYYY.DDD in Julian form DDDD for retention period in days or blank)

Key label

(* Specifying LIBRARY may override zero directory block)

(** Only one of these fields may be specified)

F1=Help F2=Split F3=Exit F4=NRetriev F5=Retrieve F6=Cretriev

F7=Backward F8=Forward F9=Swap F10=Actions F12=Cancel

06/051

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Usage & Invocation (panel ISRUVPC3)

- VSAM data sets are allocated via the IDCAMS command generated from panel ISRUVPC3. A key label field has been added to this panel to allow encryption.

Session C - [27 x 132]

File Edit Settings View Communication Actions Window Help

Menu Function Utilities Help

MVS239 ISRUVPC3 Define Cluster

Command ==> _____

Enter "/" to select option
/ Edit IDCAMS command
/ Browse errors only

Cluster Name . . . OMVS.DEITRIC.V3R1.CLUSTER _____ More: - +

Indexed, Nonindexed, Linear or Numbered . . . _____

Owner _____

Model _____

Key label _____

Data Level Information:

Space Units 1. Cylinders Primary Quantity . . . _____
2. Tracks Secondary Quantity . . . _____
3. Records
4. Kilobytes
5. Megabytes

Volumes _____

Buffer Space _____

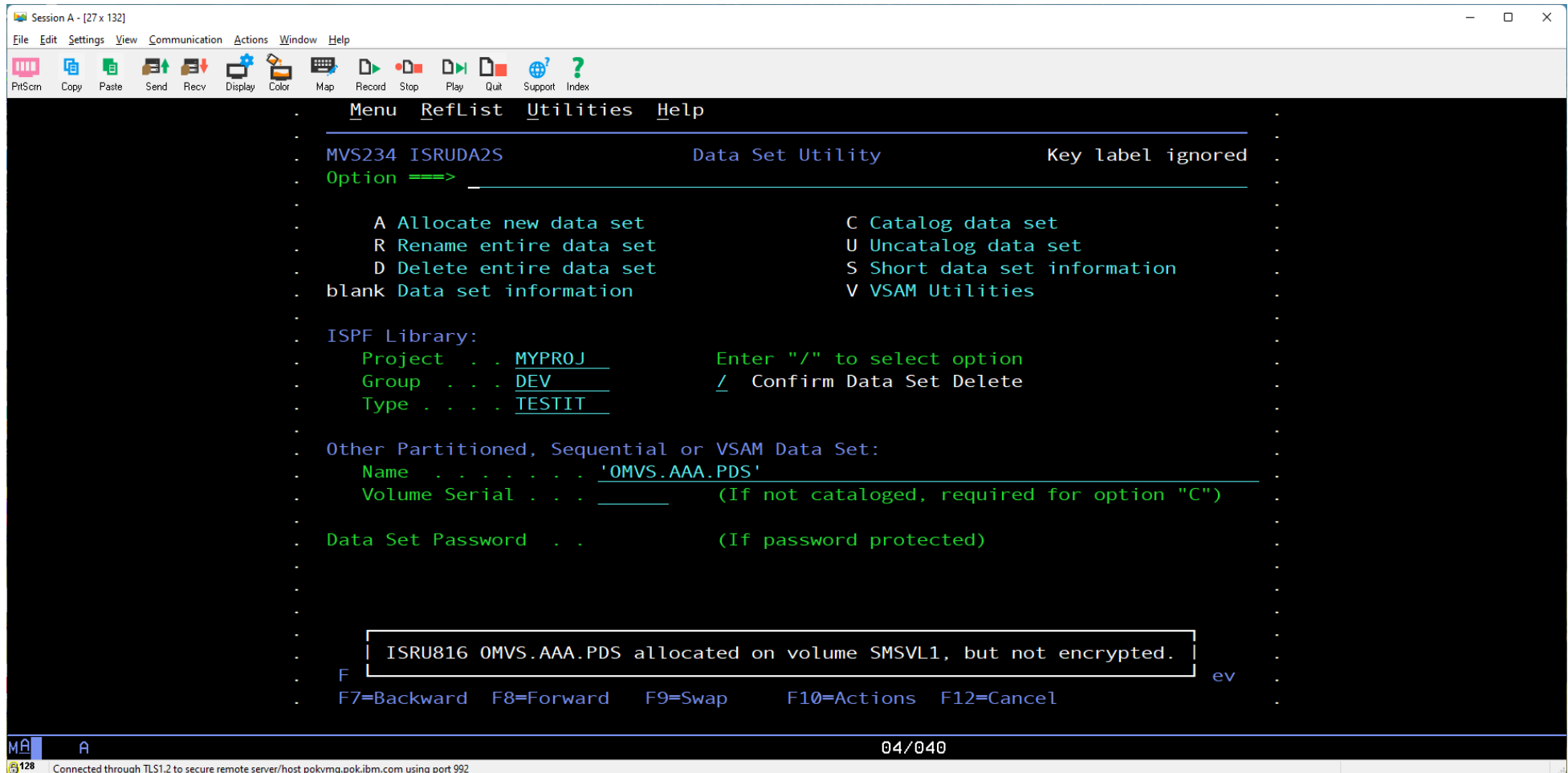
F1=Help F2=Split F3=Exit F4=NRetrieval F5=Retrieve F7=Backward
F8=Forward F9=Swap F10=Actions F12=Cancel

09/074

Connected through TLS1.2 to secure remote server/host pokvmq.pok.ibm.com using port 992

Usage & Invocation (Message ISRU816)

- The key label on the allocation panels may be ignored by DFSMS if encryption is not supported for the requested data set type. If so, ISPF will issue a new message ISRU816:



The screenshot shows an ISPF terminal window titled "Session A - [27 x 132]". The window has a menu bar with "File", "Edit", "Settings", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with icons for various functions. The main display area shows the "Menu RefList Utilities Help" panel. The "Menu" panel is active, displaying the "MVS234 ISRU816 Data Set Utility" message. The message text is as follows:

```
. Menu RefList Utilities Help
.
. MVS234 ISRU816 Data Set Utility Key label ignored
. Option ==>
.
.   A Allocate new data set           C Catalog data set
.   R Rename entire data set         U Uncatalog data set
.   D Delete entire data set         S Short data set information
. blank Data set information         V VSAM Utilities
.
. ISPF Library:
.   Project . . . MYPROJ             Enter "/" to select option
.   Group   . . . DEV               / Confirm Data Set Delete
.   Type    . . . TESTIT
.
. Other Partitioned, Sequential or VSAM Data Set:
.   Name . . . . . 'OMVS.AAA.PDS'
.   Volume Serial . . . (If not cataloged, required for option "C")
.
. Data Set Password . . . (If password protected)
.
.
.
.   ISRU816 OMVS.AAA.PDS allocated on volume SMSVL1, but not encrypted.
. F
. F7=Backward F8=Forward F9=Swap F10=Actions F12=Cancel
.
. MA A 04/040
```

The message "ISRU816 OMVS.AAA.PDS allocated on volume SMSVL1, but not encrypted." is highlighted with a red box. The terminal window also shows a status bar at the bottom indicating the connection details: "Connected through TLS1.2 to secure remote server/host pokvmq.pok.ibm.com using port 992".

Interactions & Dependencies

- Software Dependencies
 - None
- Hardware Dependencies
 - None
- Exploiters
 - None

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Plex must be at the new z/OS level: **No**
- List any toleration/coexistence APARs/PTFs: **None**
- Upgrade or coexistence concerns: **None**

Installation & Configuration

- None

Summary

- Allocating encrypted data sets is supported via a new key label field for sequential, PDSEv2, and VSAM datasets.
- New message ISRU816 will be issued if DFSMS allocates a dataset ignoring the key label field. In this case, the data set is not encrypted.

Appendix

- z/OS ISPF Publications
 - ISPF Dialog Developers Guide and Reference SC19-3619-60
 - ISPF Dialog Tag Language Guide and Reference SC19-3620-60
 - ISPF Edit and Edit Macros SC19-3621-60
 - **ISPF Messages and Codes SC19-3622-60**
 - ISPF Planning and Customization SC19-3623-60
 - ISPF Reference Summary SC19-3624-60
 - ISPF SCLM Guide and Reference SC19-3625-60
 - ISPF Services Guide SC19-3626-60
 - ISPF Users Guide Volume I SC19-3627-60
 - **ISPF Users Guide Volume II SC19-3628-60**