z/OS V2.5 IBM Education Assistant

Solution Element(s): ISPF

Agenda

- Trademarks
- Objectives
- For each function
  - Overview
  - Usage & Invocation
  - Interactions & Dependencies
  - Upgrade & Coexistence Considerations
  - Installation & Configuration
- Summary
- Appendix

Trademarks

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

Objectives – ISPF

High-level overview of the ISPF functions in z/OS V2.5:

- Support for SUBSYS parameter on the ISPF SUBMIT command
- Message enhancements for PDSE v2 member generations
- Removal of support for the ISPF Workstation Agent
- Removal of ISPF support for HFS

Support for SUBSYS parameter on the ISPF SUBMIT command

Overview

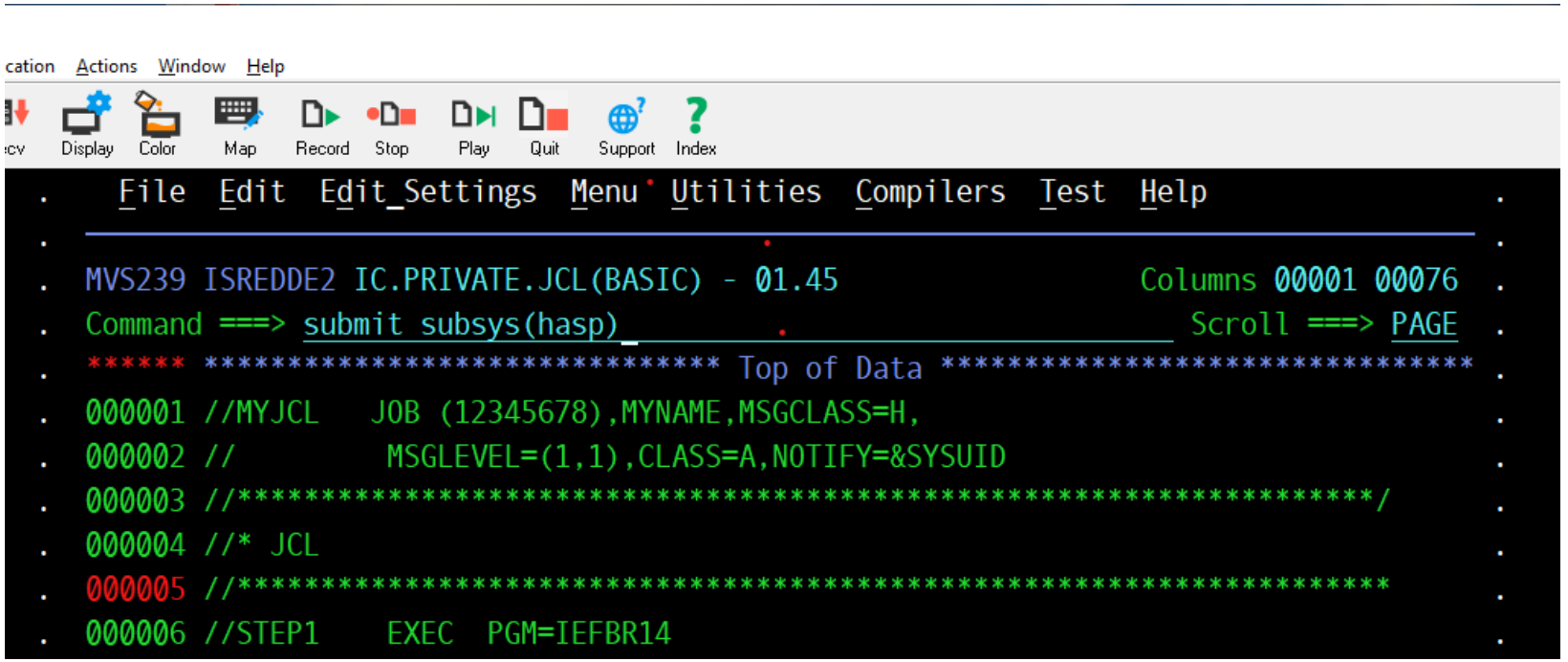
- Who (Audience)
  - System administrators
- What (Solution)
  - A SUBSYS parameter has been added to the ISPF SUBMIT command
- Wow (Benefit / Value, Need Addressed)
  - The optional SUBSYS parameter allows submission of jobs to an alternate JES other than the primary subsystem. This is useful for directing jobs to the JES2 emergency subsystem if required.

Usage & Invocation

- z/OS TSO emergency subsystem support was added to the TSO Submit command via a SUBSYS parameter in z/OS 2.3
- ISPF supports the Submit command but did not have any support for the SUBSYS parameter prior to z/OS 2.5.
- The existing Submit command can be issued from several places within ISPF. In z/OS 2.5, support for the SUBSYS parameter has been added to the following :
  - Edit Primary command line
  - Browse Primary command line
  - Within Edit Macros

Usage & Invocation …

- The syntax used for the parameter will be identical to what is currently supported via the TSO command. Example :
  - “submit SUBSYS(HASP)”



Interactions & Dependencies

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

Upgrade & Coexistence Considerations

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

Installation & Configuration

- None

Message enhancements for PDSE v2 member generations

Overview

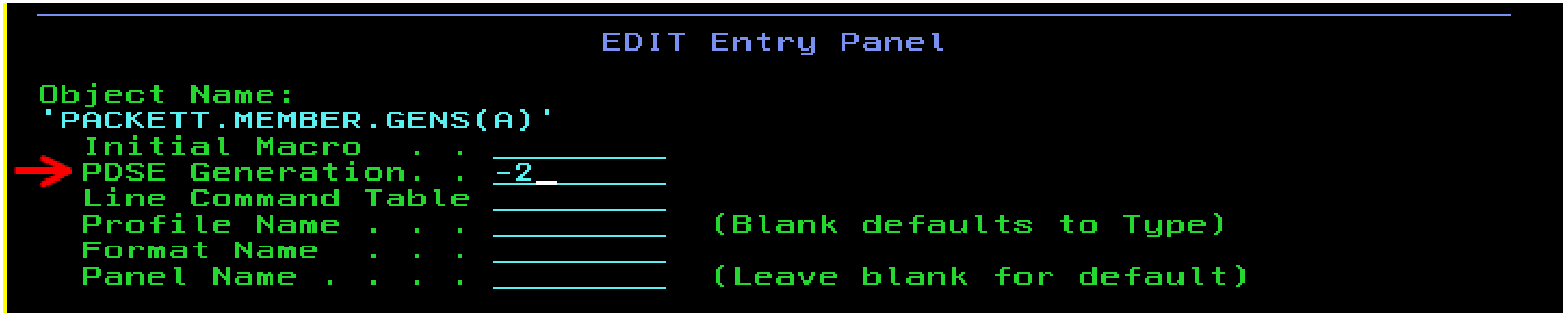
- Who (Audience)
  - System administrators, System programmers, ISPF users
- What (Solution)
  - Messages in ISPF Edit and View provide improved information about PDSE v2 member generations
- Wow (Benefit / Value, Need Addressed)
  - Improved messages allow users to more clearly understand which generation they are editing, how many generations there are, and the results of saving an edited generation.

Usage & Invocation

- PDSE V2 member generations concepts:
  - The current version of a member is referred to as the “current generation”
    - Identified as Generation 0
  - Previous versions of a member are referred to as “non-current generations”
    - Identified using either:
      - absolute generation numbers (Generation 1, 2, 3….)
      - relative generation numbers (Generation -1, -2, -3….)

Usage & Invocation …

- Accessing member generations for ISPF Edit, View, and Browse:
  - To access the current generation:
    - Specify no generation number
    - Specify 0 as generation number on Edit/View/Browse Entry panel
  - To access non-current generations:
    - Specify n (absolute generation number) on Edit/View/Browse Entry panel
    - Specify -n (relative generation number) on Edit/View/Browse Entry panel



Usage & Invocation …

- ISPF Edit SAVE Command – NEWGEN and NOGEN parameters:
  - NEWGEN
    - Saves the edit data in a new generation. This new generation becomes the current generation, also known as generation zero. The generation being edited is left unchanged. This is the default behavior when editing the current generation.
  - NOGEN
    - Saves the edit data to the same generation that is being edited. This is the default behavior when editing a non-current generation.
- Note: The default SAVE behavior when editing a non-current member generation can be changed in the ISPF site configuration table.

Usage & Invocation …

- Two RFEs specifically request improvements in some of the messages associated with member generations:
  - RFE 55041: “ISPF SAVE NEWGEN add message indicating number of generations”
    - When a generation is saved, the message issued should indicate how many generations are in use
  - RFE 55908: “ISPF edit member generation message”
    - When a non-current generation is edited, the “CAUTION” messages displayed should include relative or absolute generation numbers, based on how the generation was selected for edit
- An additional issue is that member generation information for a data set is not displayed on any ISPF panel.

Usage & Invocation …

- RFE 55041: When a generation is saved, the message issued will indicate how many generations are in use
- Existing message ISRE494 is modified:
  - Issue this message when the current generation is edited and saved using NEWGEN
  - Short:
    - Member memname saved
  - Long:
    - Current generation of member memname created in dataset - NEWGEN was used for the save. currnum non-current generations are saved. maxnum is the maximum.

Usage & Invocation …

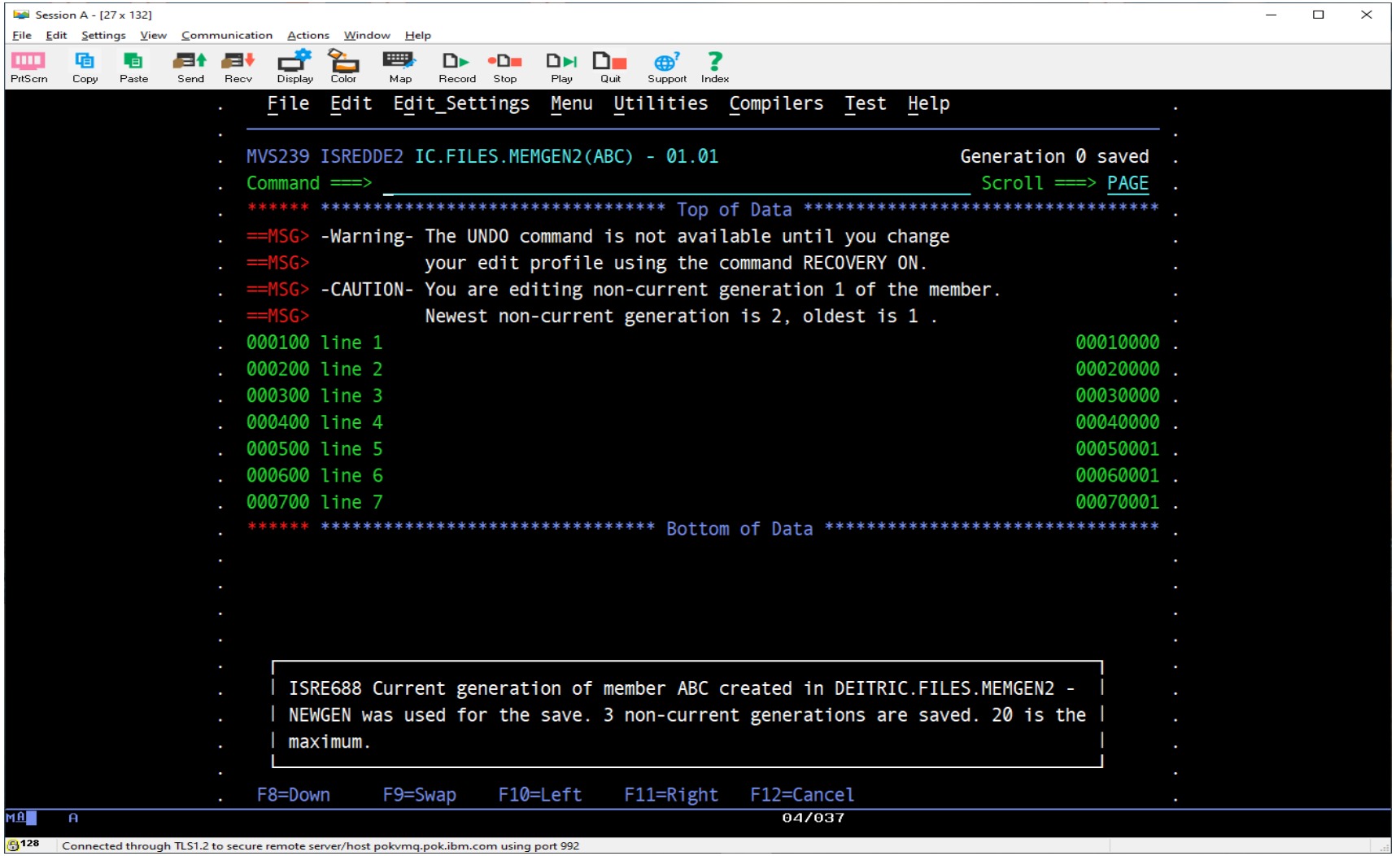
- ISRE494 - The current generation is edited and saved using NEWGEN

Usage & Invocation …

- New message ISRE688 is added:
  - Issue this message when a non-current generation is edited and saved using NEWGEN
  - Short:
    - Generation 0 saved
  - Long:
    - Current generation of member memname created in dataset - NEWGEN was used for the save. currnum non-current generations are saved. maxnum is the maximum.

Usage & Invocation …

- ISRE688 - A non-current generation is edited and saved using NEWGEN

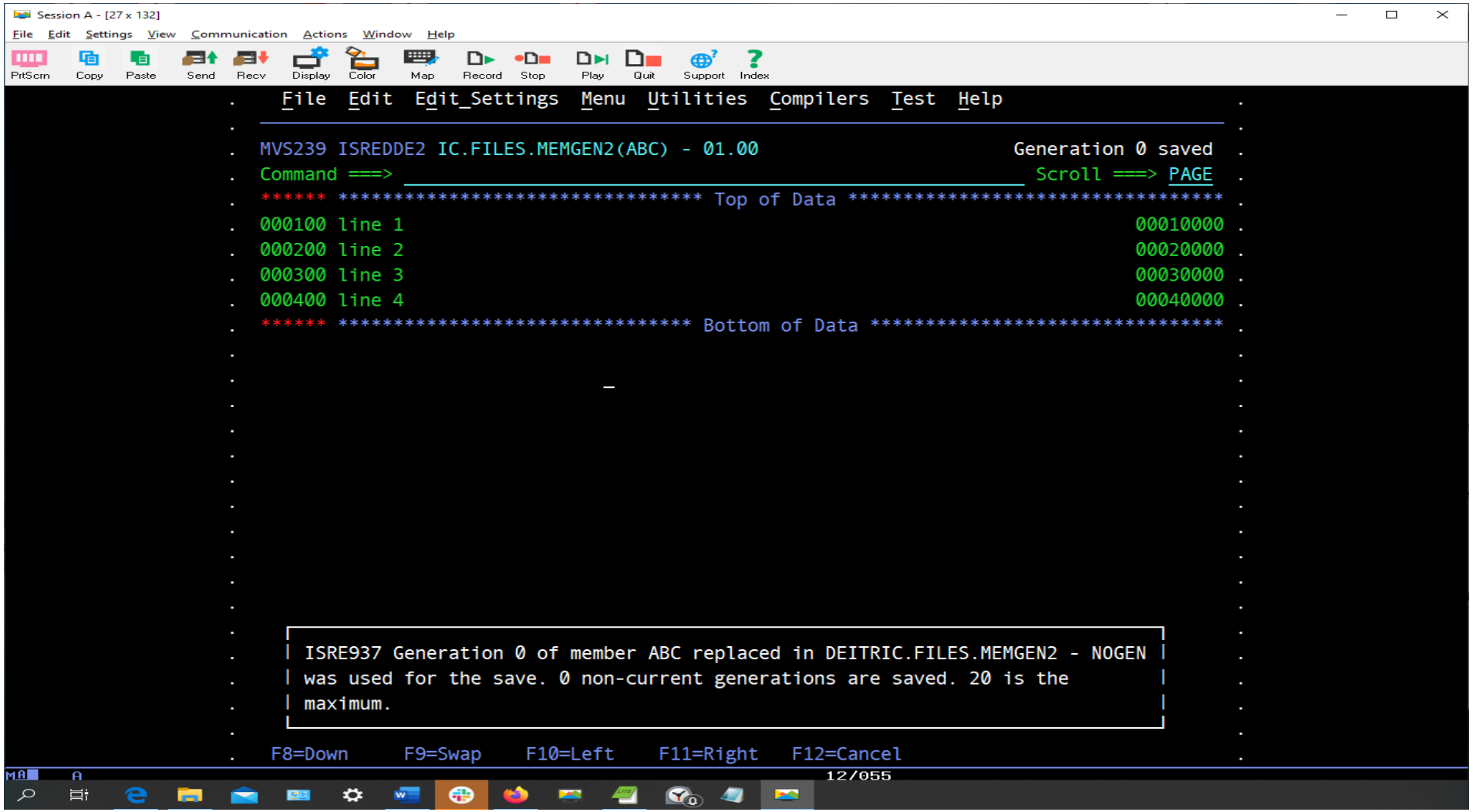


Usage & Invocation …

- New message ISRE937 is added:
  - Issue this message when current or non-current generation is edited and saved using NOGEN
  - Short:
    - Generation gennum saved
  - Long:
    - Generation gennum of member memname replaced in dataset - NOGEN was used for the save. currnum non-current generations are saved. maxnum is the maximum.

Usage & Invocation …

- ISRE937 - A current or non-current generation is edited and saved using NOGEN



Usage & Invocation …

- RFE 55908: When a non-current generation is edited, the “CAUTION” messages displayed should include relative or absolute generation numbers, based on how the generation was selected for edit
- Current messages (ISRF046/ISRF047), displayed when a non-current generation is edited, show absolute numbers even when a relative number was used to select the generation:

```
****** ***************************** Top of Data ******************************
==MSG> -CAUTION- Edit session has been invoked for generation 3
==MSG>           High generation number is currently 4
000100 edit 1
000200 edit 2
000300 edit 3
****** **************************** Bottom of Data ****************************
```

- Current messages (ISRF050/ISRF051), displayed when a non-current generation is viewed, show absolute numbers even when a relative number was used to select the generation :

```
****** ***************************** Top of Data ******************************
==MSG> -CAUTION- View session has been started for generation 3
==MSG>           High generation number is 4
000100 edit 1
000200 edit 2
000300 edit 3
****** **************************** Bottom of Data ****************************
```

Usage & Invocation …

- Messages (ISRF046/ISRF047) displayed when a non-current generation is edited, are modified:

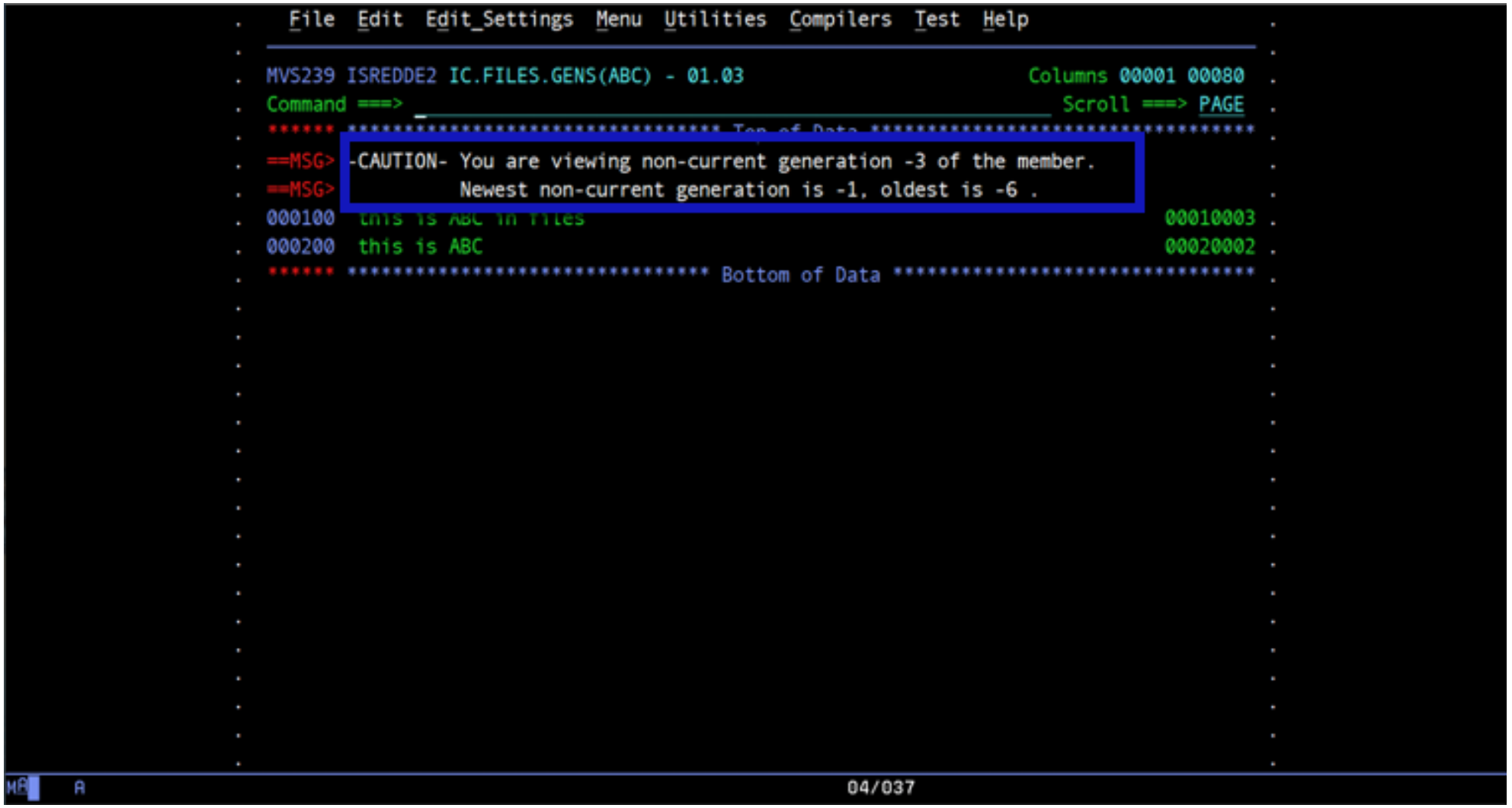
```
-CAUTION- You are editing non-current generation gennum of the member.
          Newest non-current generation is newgen, oldest is oldgen.
```

- Messages (ISRF050/ISRF051) displayed when a non-current generation is viewed, are modified:

```
-CAUTION- You are viewing non-current generation gennum of the member.
          Newest non-current generation is newgen, oldest is oldgen.
```

Usage & Invocation …

- ISRF050/ISRF051 example



Usage & Invocation …

- One additional enhancement: Some users find the default SAVE behavior (NOGEN) when editing a non-current generation to be counter-intuitive.
  - Note: APAR OA51029 (V2R2+) provided the ability to change the ISPF configuration so the default SAVE behavior when editing a non-current generation is NEWGEN

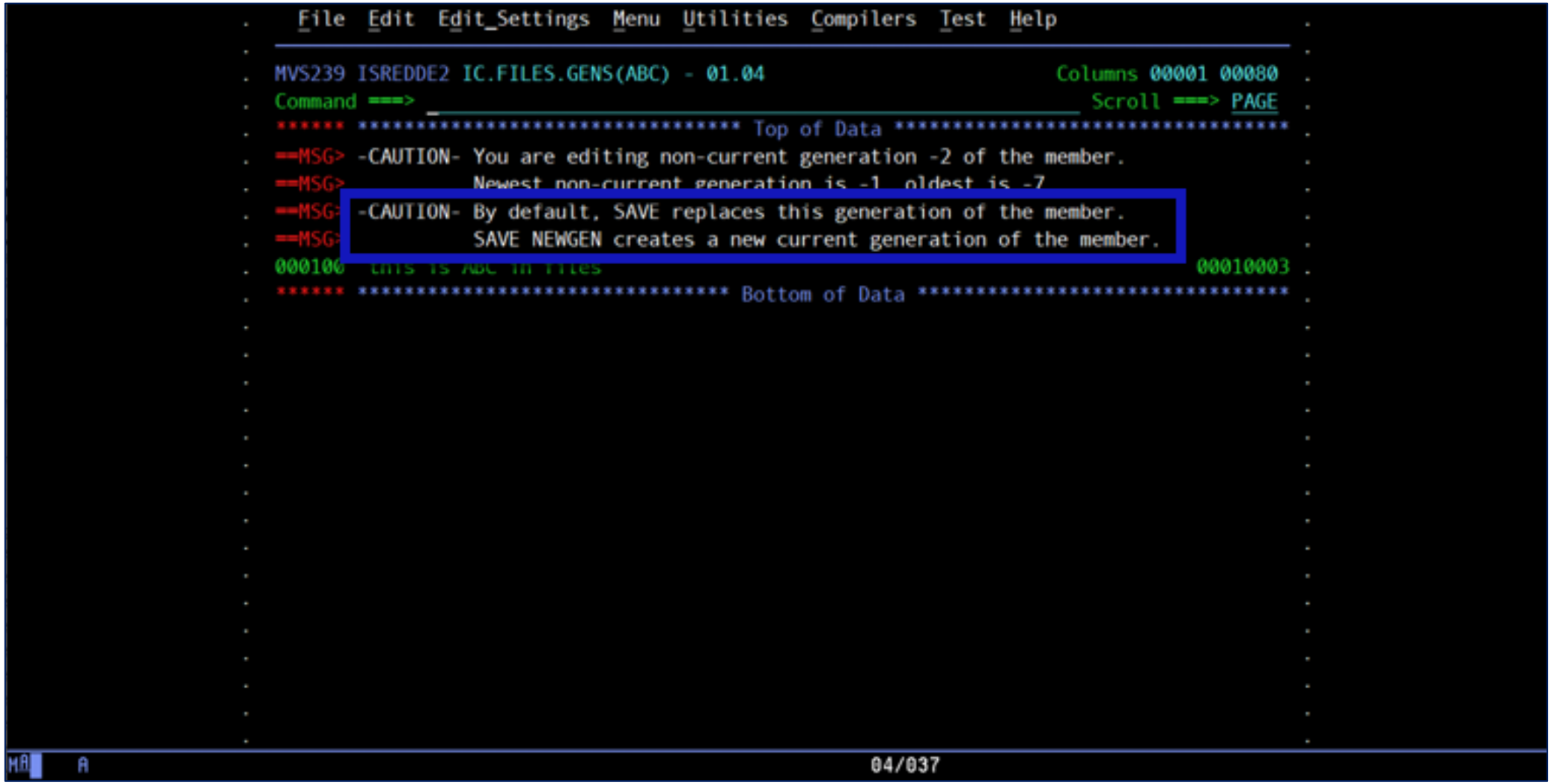
- New “CAUTION” messages ISRF052/ISRF053 added:

```
-CAUTION- By default, SAVE replaces this generation of the member.
          SAVE NEWGEN creates a new current generation of the member.
```

  - Displayed only when a non-current generation is being edited and NOGEN is the default save behavior

Usage & Invocation …

- ISRF052/ISRF053 example



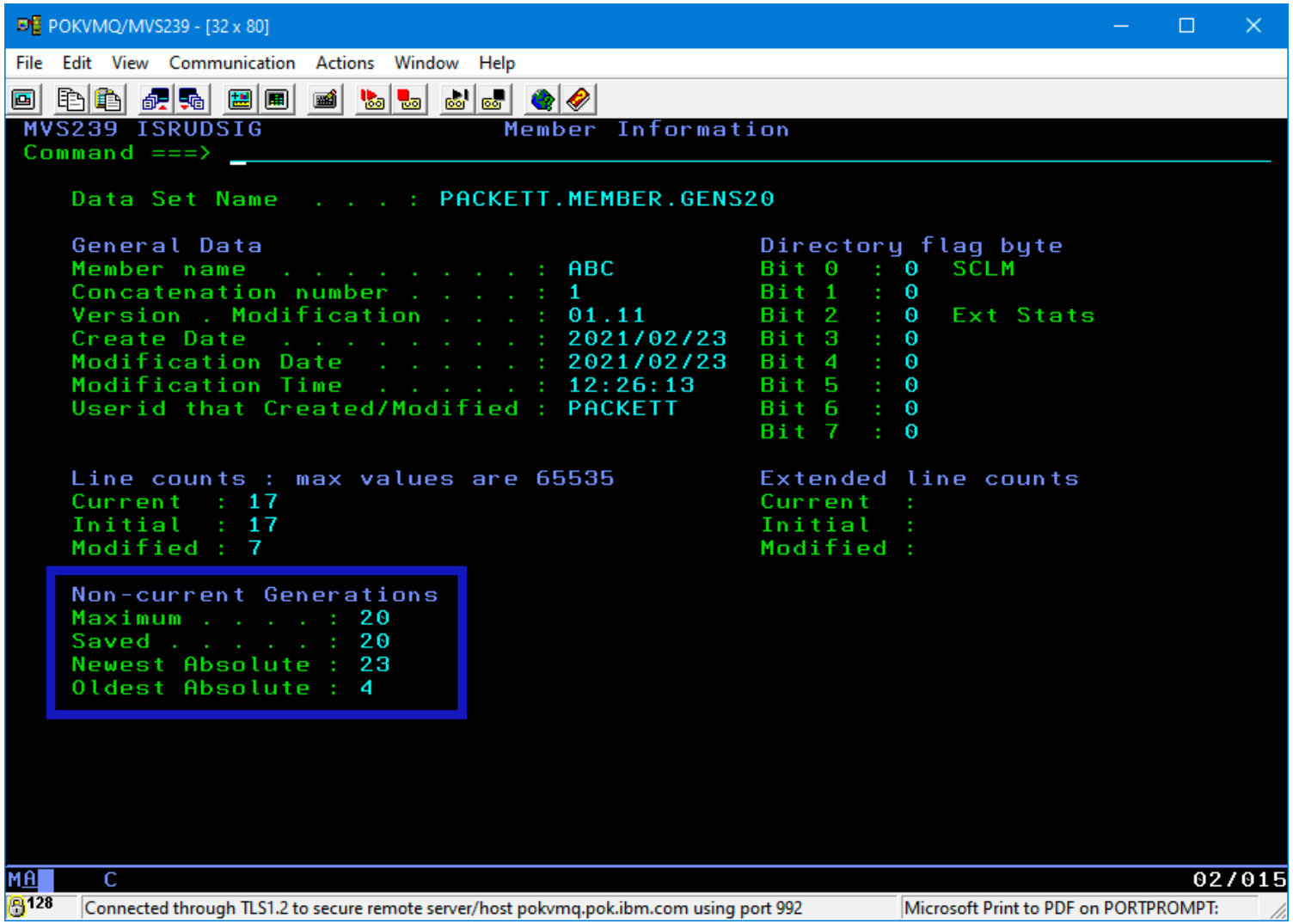
Usage & Invocation …

- An additional issue is that member generation information for a data set is not displayed on any ISPF panel.

- In z/OS 2.5, a new member information panel (ISRUDSIG) has been created to include generation information. This will be displayed when the data set is configured for generations, otherwise the existing panel ISRUDSI will continue to be displayed without that information.

Usage & Invocation …

- Example of new member information panel



Usage & Invocation …

- Notes:
  - Use the member information panel to determine what generations are currently allocated and in use.
  - Hit PF1 to display the long message version of various member generation messages. The long version contains more details and can be very helpful.
  - If you delete a data set entirely and then reallocate it, the absolute numbers used may not start with “1”. However, the first relative generation will always start with “-1”. Display the member information panel to see what absolute numbers are being used.

Interactions & Dependencies

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

Upgrade & Coexistence Considerations

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

Installation & Configuration

- None

Removal of support for the ISPF Workstation Agent

Overview

- Who (Audience)
  - System administrators, System programmers, ISPF users
- What (Solution)
  - The ISPF Workstation Agent (WSA) is removed from z/OS 2.5
- Wow (Benefit / Value, Need Addressed)
  - The ISPF WSA is no longer available and eliminates an application that only allowed unencrypted communications

Usage & Invocation …

- The ISPF Workstation Agent (WSA) was an application that ran on the workstation and maintained a connection between the workstation and ISPF on the host

- WSA provided the following capabilities:
  - transfer files between the workstation and the host
  - edit host data on the workstation and workstation data on the host
  - display the ISPF panels using the display function of the workstation operating system

Usage & Invocation …

- Communications between ISPF on the host and WSA on the workstation was not encrypted
- In general, IBM does not recommend the use of non-encrypted communications
- A statement of direction was issued in February 2019, informing customers that z/OS V2R4 would be the last release to support WSA
- Health check ISPF_WSA and SAF resource ISPF.WSA provide a way for V2R2, V2R3, and V2R4 customers to determine if WSA is being used and to control initiation of connections from ISPF to WSA

Usage & Invocation …

- The ISPF Workstation Agent application, and all ISPF function that supported the application, is removed in V2R5
  - The Workstation Agent application executable is no longer shipped in data set ISP.SISPGUI
  - ISPF health check ISPF_WSA is no longer available
  - SAF resource ISPF.WSA is no longer checked
  - ISPF commands, command parameters, services, service keywords, panel options, and Dialog Tag Language keywords are:
    - ignored if they provided information specific to the WSA environment, but could be used/specified when operating in both the 3270 and WSA environment
      - Allows existing dialogs, execs, etc. that specify them to continue to be used in the 3270 environment with no change
    - no longer available/accepted if they could only be used/specified when operating in the WSA environment
  - Appropriate error messages or return codes are issued upon use of ISPF commands, command parameters, services, service keywords, panel options, or Dialog Tag Language keywords that are no longer available/accepted
  - Details available in the “ISPF Removal of Workstation Agent” beta presentation on the FTP site

Interactions & Dependencies

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

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Sysplex must be at the new z/OS level: No
- List any toleration/coexistence APARs/PTFs: None
- No coexistence concerns
- WSA users upgrading to z/OS 2.5 will no longer be able to use WSA and will have to use alternative functions.

Installation & Configuration

- None

Removal of ISPF support for HFS

Overview

- Who (Audience)
  - System administrators, System programmers, ISPF users
- What (Solution)
  - Support for the Hierarchical File System (HFS) is removed from ISPF in z/OS 2.5
- Wow (Benefit / Value, Need Addressed)
  - While it will still be possible to view HFS datasets, new HFS datasets cannot be allocated within ISPF

Usage & Invocation

- The preview announcement for z/OS V2R3 (February 21, 2017) included the following statement of direction:
  - The release after z/OS V2.3 is planned to be the last release of the operating system to support the HFS (Hierarchical File System) data structure used by the z/OS UNIX environment. IBM has provided equivalent if not superior functionality with the z/OS File System (zFS). Customers should migrate from HFS to zFS using the utilities provided in the operating system to convert their entire file system hierarchy.

- Note that in z/OS 2.5, a user:
  - **Can** have HFS data sets defined
  - **Cannot** mount any HFS data sets

Usage & Invocation …

- In z/OS 2.5, ISPF removes most dependencies on HFS and references specific to HFS
- This includes:
  - **Removing** the ability to allocate new HFS data sets
  - **Not removing** the ability to include existing HFS data sets in a data set list, nor the ability to indicate that an existing data set is of type HFS.
  - **Removing** all references specific to HFS **except** those related to existing HFS data sets

Usage & Invocation …

- Support for the allocation of HFS data sets is removed from the Allocate New Data Set panels
- Support for the AL line command on HFS data sets is removed from the Data Set List panel
- On the Mount z/OS Unix File System panel, the File System Type field is initialized to ZFS and the value HFS is no longer accepted
- Additional details available in the “Removal of ISPF Support for HFS” beta presentation on the FTP site

Interactions & Dependencies

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

Upgrade & Coexistence Considerations

- To exploit this solution, all systems in the Sysplex must be at the new z/OS level: No
- List any toleration/coexistence APARs/PTFs: None
- No coexistence concerns
- Users moving to z/OS 2.5 can only allocate zFS datasets

Installation & Configuration

- None

Summary – ISPF

- Support for SUBSYS parameter on the ISPF SUBMIT command
- Message enhancements for PDSE v2 member generations
- Removal of support for the ISPF Workstation Agent
- Removal of ISPF support for HFS

Appendix 1 of 2

Statement of Direction: Withdrawal of ISPF Workstation Agent (Issued February 26, 2019)

z/OS V2.4 is planned to be the last release to support the ISPF Workstation Agent (WSA), also known as the ISPF Client/Server Component. WSA is an application that runs on your local workstation and maintains a connection between the workstation and the ISPF host. It is primarily used to transfer files between the workstation and the host. IBM recommends using more current file transfer solutions such as those provided by the Zowe Dataset Explorer, z/OS FTP, and similar file transfer mechanisms. These solutions have more capabilities, including the ability to provide secure communications.

Appendix 2 of 2

- z/OS ISPF Publications
  - ISPF Dialog Developers Guide and Reference SC19-3619-50
  - ISPF Dialog Tag Language Guide and Reference SC19-3620-50
  - ISPF Edit and Edit Macros SC19-3621-50
  - ISPF Messages and Codes SC19-3622-50
  - ISPF Planning and Customizing SC19-3623-50
  - ISPF Reference Summary SC19-3624-50
  - ISPF SCLM Guide and Reference SC19-3625-50
  - ISPF Services Guide SC19-3626-50
  - ISPF Users Guide Volume I SC19-3627-50
  - ISPF Users Guide Volume II SC19-3628-50