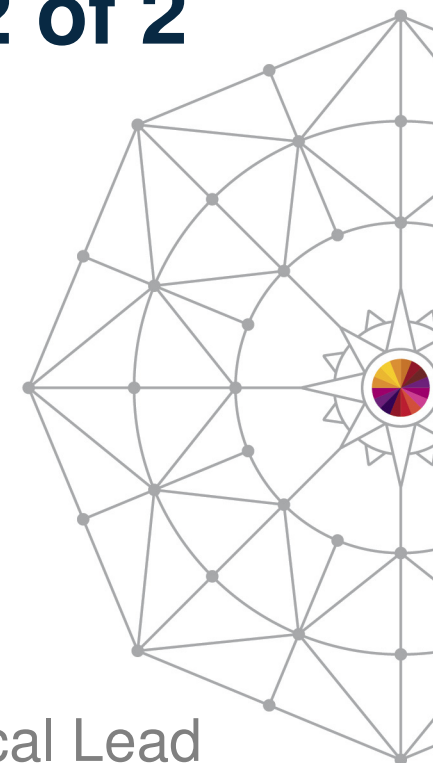# z/OS 2.1 from 1.12 Migration Part 2 of 2

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Friday, August 8, 2014

16187

Introduction

Speaker: **Shigeki Kimura**

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IBM

Biographical Sketch: Shigeki Kimura is the technical lead for z/OS migration at IBM Japan. He has expertise in and deep knowledge of z/OS release-to-release migration and has participated in key reviews of **z/OS Migration book** since 2006. Also, he has contributed his articles in **z/OS Hot Topics magazine** since 2010. Shigeki has been with IBM for 28 years.

As the first release of z/OS V2, z/OS V2R1 was generally available in September last year. Through the participation of Early Support Program, regression testing with z/OS V2R1, and technical support for Japanese customer's migration project, we have learned various **"Hints and Tips"** for successful migration and identified some important **considerations** to make the transition less traumatic. **I will share with you our experience to help prepare the migration to z/OS V2R1 from V1R12, especially in the area of BCP, JES2, DFSMS, SDSF, ISPF, TCP/IP, and HLASM.** It contains the changes of behavior introduced in z/OS V1R13 and incorporated into z/OS V2R1, and also the changes introduced by services (PTFs and SPEs) in z/OS V2R1. Now, it's time to start the migration to z/OS V2R1!

z/OS Hot Topics Newsletter Issue 28, August 2014 (Page 31-33)

Valuable hints and tips for migrating to z/OS V2R1

Advice from Professor Kimura

BY SHIGEKI KIMURA

As a result of participation in the z/OS Version 2 Release 1 (V2R1) Early Support Program (ESP) and regression testing, some important tips surfaced. These findings can help ease preparation for your migration to z/OS V2R1 from V1R12.

Start the migration to z/OS V2R1!

1. In V2R1, by default, when SDSF attempts to activate an extended console and the default console name (the TSO/E logon user ID) is already in use, SDSF activates a new console with a different name. The new name is derived by appending a single-character suffix to the default name. SDSF tries up to 32 different characters to create a unique console name. This new behavior also applies to the extended console names that are assigned by the SET CONSOLE commands. However, extended console names that have the maximum length of 8 characters are not modified.

Session: Part 1 & Part 2

16186: z/OS 2.1 from 1.12 Migration Part 1 of 2

Wednesday, August 6, 2014: 08:30 AM - 09:30 AM,
DLLCC, Room 406

BCP
6 items

ISPF
6 items

SDSF
2 items

DFSMS
7 items

JES2
4 items

TCP/IP
1 items

HLASM
1 items

16187: z/OS 2.1 from 1.12 Migration Part 2 of 2

Friday, August 8, 2014: 08:30 AM - 09:30 AM,
DLLCC, Room 310

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in Pittsburgh 2014

Today's session: Part 2

DFSMS	JES2
DFSMS 7 items	**JES2** 4 items

TCP/IP	HLASM
TCP/IP 1 items	**HLASM** 1 items

16187: z/OS 2.1 from 1.12 Migration Part 2 of 2

Friday, August 8, 2014: 08:30 AM - 09:30 AM, DLLCC, Room 310

Summary of items

● Changed by BASE   **PTF** Changed by PTF

		V1R12	V1R13	V2R1	APAR
DFSMS	FREE=CLOSE in DD concatenation	**PTF**	**PTF**	●	OA40159 OA39642
DFSMS	NOREUSE attribute for SMS ACDS and COMMDS		●		
DFSMS	VARY OFFLINE during DSS COPY FULL COPYV		●		
DFSMS	ABEND messages by OPEN, CLOSE, and EOV		**PTF**	●	OA37505
DFSMS	Informational messages by DELETE and RENAME		●	●	
DFSMS	Restriction for IEBGENER utility program	**PTF**	**PTF**	●	OA39702
DFSMS	Output from IDCAMS LISTCAT LEVEL command			●	
HLASM	SDB for SYSLIN and SYSPUNCH	**PTF**	**PTF**	**PTF**	PI10515
TCP/IP	FTP definitions in IKJTSOxx parmlib member			**PTF**	PI13288
JES2	Message $HASP165 (MAXCC) and $HASP890 (CC)		●		
JES2	Error processing during INPUT phase			●	
JES2	Resetting JOBCLASS by Exit 6, 3, and 53			●	
JES2	Syntax of INIT JOBCLASS definition			●	

6

(DFSMS) FREE=CLOSE in DD concatenation

- **Behavior in z/OS V1R12**

  - Even if a FREE=CLOSE is specified in the allocation request

    - **It is bypassed when the data set is part of a concatenation, for example**

      - ✓ The reason for this happened is not externalized

  - z/OS V1R12 provides a new IEC988I message

    - It externalizes the reason for not honoring the FREE=CLOSE request, when FREE=CLOSE is specified in the JCL or in the CLOSE macro

      - ✓ This informational message simplifies diagnosis of FREE=CLOSE failures

  - In z/OS V1R12 and V1R13 Base

    - Message IEC988I reason code 4 is issued only when FREE=CLOSE is specified on the last concatenated DD

```
//BEANSZZ    JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//S1         EXEC PGM=IEBGENER
//SYSPRINT DD  SYSOUT=*
//SYSUT1    DD  DISP=SHR,DSN=BEANS.TEST
//          DD  DISP=SHR,DSN=BEANS.ISPVCALL.TRACE
//          DD  DISP=SHR,DSN=BEANS.BEANS.TEST1,FREE=CLOSE
//SYSUT2    DD  DUMMY
//SYSIN     DD  DUMMY
.
IEC988I BEANSZZ,S1,SYSUT1-2,59FE,ZR13C1,BEANS.BEANS.TEST1 DATA
SET NOT UNALLOCATED DURING CLOSE RC 04
```

(DFSMS) FREE=CLOSE in DD concatenation

⊕ **Change in z/OS V2R1**

● Message IEC988I is issued with reason code 4 (concatenation) <u>when FREE=CLOSE is specified on any DD in a concatenation</u>

  ➤ It reflects the **first data set in the concatenation** that encountered the FREE=CLOSE

    ✓ Even if multiple DD statements specify the FREE=CLOSE

  ➤ Message IEC988I will still only be issued **once per concatenation**

```
//BEANSZZ    JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//S1        EXEC PGM=IEBGENER
//SYSPRINT DD  SYSOUT=*
//SYSUT1    DD  DISP=SHR,DSN=BEANS.TEST,FREE=CLOSE
//          DD  DISP=SHR,DSN=BEANS.ISPVCALL.TRACE,FREE=CLOSE
//          DD  DISP=SHR,DSN=BEANS.BEANS.TEST1,FREE=CLOSE
//SYSUT2    DD  DUMMY
//SYSIN     DD  DUMMY
.
IEC988I BEANSZZ,S1,SYSUT1,6912,SYSWKB,BEANS.TEST DATA SET NOT
UNALLOCATED DURING CLOSE RC 04
```

● The same change is applicable to z/OS V1R12 and V1R13 by the following APARs

  ➤ z/OS V1R12 DFSMS APAR OA40159

  ➤ z/OS V1R13 DFSMS APAR OA39642

(DFSMS) NOREUSE attribute for SMS ACDS and COMMDS

✥ **Change in z/OS V1R13**

- The <u>VSAM attribute of ACDS and COMMDS</u> is automatically altered to REUSE, when it is defined or detected as being NOREUSE

  ➢ The alteration is invoked **during the initialization of SMS address space**

    ✓ Also, when you issue the SETSMS commands to activate control data sets

- What is the impact to the CDS if it does not have the REUSE attribute?

  ➢ The impact of not specifying REUSE is that you may experience errors such as <u>full CDS conditions unnecessarily</u>

    ✓ This is because when these data sets with NOREUSE are updated, the new data in new extents is written which make the CDS grow larger unnecessarily (the write is a complete rewrite of the data)

- What is recommended?

  ➢ The recommendation is that **all SMS CDS should be defined with REUSE**

- Caution:

  ➢ When you define the VSAM LINEAR data sets for SMS ACDS and COMMDS by IDCAMS DEFINE CLUSTER command, <u>the default attribute is NOREUSE</u>

(DFSMS) NOREUSE attribute for SMS ACDS and COMMDS

✥ **Considerations**

- When the ACDS and/or COMMDS is protected by RACF DATASET CLASS profile

  ➤ You need to have the <u>ALTER access authority</u> to the profile to succeed the ALTER

- **If SMS address space does not have such authority**

  ➤ The ALTER operation to REUSE is failed

    ✓ Despite the RACF error message, the initialization will proceed with NOREUSE attribute

```
ICH408I USER(UUUUUUU ) GROUP(GGGGGGGG) NAME(NNNNNN            ) 619
  XXXXX.YYY.DFSMS.ACDS CL(DATASET ) VOL(VVVVVV)
  INSUFFICIENT ACCESS AUTHORITY
  FROM XXXXX.** (G)
  ACCESS INTENT(ALTER ) ACCESS ALLOWED(READ   )
IGD094I CATALOG ERROR WHILE ALTERING       XXXXX.YYY.DFSMS.ACDS FROM NOREUSE
629
TO REUSE. RETURN CODE IS 56 REASON CODE IS 6 IGG0CLFT
```

> z/OS V2R1

  ➤ To eliminate the security messages issued

    ✓ You can change the attribute of ACDS and/or COMMDS to REUSE by IDCAMS ALTER command **before starting z/OS V2R1**

- Solution: DOC APAR OA43577

  ➤ <u>Assign the RACF TRUSTED attribute to SMS address space</u>

(DFSMS) VARY OFFLINE during DSS COPY FULL COPYV

- **Behavior in z/OS V1R12**

  - In the operation of **COPY or RESTORE FULL with COPYVOLID**

    - DFSMSdss issues a console command to <u>vary the target volume offline</u>

      - ✓ When it becomes a duplicate of the source volume

- **Behavior in z/OS V1R13 before the change**

  - It is also applicable to z/OS V1R12

```
//STEP EXEC PGM=ADRDSSU,REGION=0M
//SYSPRINT DD SYSOUT=*
//DASD1 DD DISP=OLD,UNIT=3390,VOL=SER=ZR13D1
//DASD2 DD DISP=OLD,UNIT=3390,VOL=SER=TESTV3
//SYSIN DD *
  COPY FULL INDDNAME(DASD1) OUTDDNAME(DASD2) -
  ALLDATA(*) ALLEXCP COPYVOLID
```

```
M 5000000 JOB02815    ADR320I (001)-SBRTN(01), VOLUME SERIAL TESTV3 ON UNIT 58F0 IS CHANGED
S                     871
E            871      TO ZR13D1
NI0000000 JOB02815    VARY 58F0,OFFLINE  DFSMSDSS INTERNAL VARY
M 5000000 JOB02815    ADR344I (001)-SBRTN(01), VOLSER ON UCB 58F0 IS A DUPLICATE. VOLUME MADE
S                     873
E            873      UNAVAILABLE
NR0000000 INTERNAL    IEF281I 58F0 NOW OFFLINE
```

(DFSMS) VARY OFFLINE during DSS COPY FULL COPYV

- **Change in z/OS V1R13 with APAR OA36296**

  - DFSMS is changed to use the IEEVARYD synchronous service to vary the target volume offline

    - **No longer issues a VARY OFFLINE console command**

  - After the change:

```
M 5000000 JOB01824   ADR320I (001)-SBRTN(01), VOLUME SERIAL TESTV3 ON UNIT 58F3 IS CHANGED
S                    791
E            791     TO ZR13D1
M 5000000 JOB01824   ADR344I (001)-SBRTN(01), VOLSER ON UCB 58F3 IS A DUPLICATE. VOLUME MADE
S                    792
E            792     UNAVAILABLE
N 5000000            IEF880I 58F3 NOW OFFLINE BY ADRSBRTN
```

  - Change of external behavior (Console, JOBLOG, and Hardcopy)

	Logging of VARY OFFLINE command	Message when OFFLINE completed
Before	VARY dddd,OFFLINE DFSMSDSS INTERNAL VARY	IEF281I dddd NOW OFFLINE
After	None	IEF880I dddd NOW OFFLINE BY ADRSBRTN

(DFSMS) VARY OFFLINE during DSS COPY FULL COPYV

⊕ **Considerations**

- Pay attention to the information described in DFSMSdss APAR OA36296 (PTF UA60377)

> COMMENTS:
> AI :
> Change that can be seen in the job output and system log output after the application of the UA60377 ptf.
> The VARY command is no longer issued specifically by DSS, thus the
>   VARY xxxx,OFFLINE DFSMSDSS INTERNAL VARY
> is no longer displayed to the logs.
> Instead, to alert the operator, msgIEF880I with new suffix is generated. You will see output:
>   IEF880I xxxx NOW OFFLINE BY ADRSBRTN.

- **Change of message attribute** when the OFFLINE processing is completed

  ➤ Before: IEF281I is a command response

  ➤ After: IEF880I is not a command response – unsolicited message

- You might check if these changes affect operation, procedure, and message automation

  ➤ Recommend to consider to announce these changes before the production starts

(DFSMS) ABEND messages by OPEN, CLOSE, and EOV

✥ Change in z/OS V2R1

- All OPEN, CLOSE and EOV ABEND messages are now **issued as MLWTO**

  ➢ Even if you do not enable the new VERBOSE message function using the .MSGOPTION VERBOSE(Y) keyword in MPFLSTxx parmlib member

    ✓ Example of verbose message

    ```
    IEC141I 013-18,IGG0191B,BEANSZZ,STEP1,SYSUT1,6C1C,G321C1,
    SYS1.PARMLIB(ZZZZ)
    ERROR DESCRIPTION: IEC141I
    An OPEN macro instruction was issued for a partitioned data set. The
    DSNAME parameter specified a member that could not be found.
    END ERROR DESCRIPTION: IEC141I
    ```

- Changed by DFSMS APAR OA37505 (z/OS V1R13)

  ➢ Affected messages are documented in the HOLD(AO) with PTF UA64502

- Before the change – Issued with **single-line WTO message**

```
N  0020000 JOB01430 IEC141I 013-18,IGG0191B,BEANSZZ,STEP1,SYSUT1,6808,G11AT1,SYS1.SAMPLIB(ZZ
S                   ZZ)
```

- After the change – Issued with **multi-line WTO message**

```
M  0020000 JOB02858 IEC141I 013-18,IGG0191B,BEANSZZ,STEP1,SYSUT1,6817,G321T1, 040
E                      040 SYS1.SAMPLIB(ZZZZ)
```

(DFSMS) ABEND messages by OPEN, CLOSE, and EOV

⊕ **Considerations**

- Automated operation services that parse these messages might be affected

  ➤ Because the message is now issued as a multi-line WTO message

    ✓ For example, the contents of the subsequent "D" or "E" lines cannot be evaluated in a NetView message table comparison with a regular NetView trap

- To address this particular NetView issue

  ➤ **Use the ACQUIRE and FINDLINE message traps** as described in the following Technote

    ✓ http://www.ibm.com/support/docview.wss?uid=swg21253770

(DFSMS) Informational messages by DELETE and RENAME

✤ **Behavior in z/OS V1R12**

● **Message IGD17054I** reports the status of DELETE/RENAME processing to support an easier problem determination

➢ The destination is JOBLOG & Hardcopy

● Example:

➢ Data set BEANS.TEST.SCRATCH.MULTI is allocated in two volumes, SYSWK1 and SYSWK2, but the extent resides only on the first volume

➢ DISP=(OLD,DELETE) processing results in message IGD17054I

✓ JCL
```
//BEANSZZ   JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//STEP1   EXEC PGM=IEFBR14
//DD1     DD DSN=BEANS.TEST.SCRATCH.MULTI,DISP=(OLD,DELETE)
```

✓ JOBLOG/JESMSGLG

```
20.32.40 JOB02011  IEF403I BEANSZZ – STARTED – TIME=20.32.40
20.32.40 JOB02011  IGD17054I DATA SET NOT FOUND FOR DELETE/RENAME ON VOLUME SYSWK2  595
   595             DATA SET IS BEANS.TEST.SCRATCH.MULTI
20.32.40 JOB02011  IEF404I BEANSZZ – ENDED – TIME=20.32.40
```

✓ Hardcopy (SYSLOG)

```
20:32:40.57 JOB02011 00000290  IGD17054I DATA SET NOT FOR DELETE/RENAME ON VOLUME SYSWK2 595
            595 00000290  DATA SET IS BEANS.TEST.SCRATCH.MULTI
```

(DFSMS) Informational messages by DELETE and RENAME

⊕ **Change in z/OS V1R13**

- You can suppress the message IGD17054I issuance by specifying a new option

  ➢ **SUPPRESS_DRMSGS(YES)** in IGDSMSxx parmlib member

    ✓ IGD17054I in both JOBLOG and Hardcopy is suppressed

  ➢ <u>Default is NO</u> which continues to issue IGD17054I

⊕ **Change in z/OS V2R1**

- Issuance of IGD17054I message is controlled by a new option in IGDSMSxx parmlib member

- You need to specify the following option to suppress it from both JOBLOG and Hardcopy

  ➢ **SUPPRESS_SMSMSG(YES,IGD17054I)**

    ✓ <u>Default is NO</u> which continues to issue IGD17054I

- Issuance of all other DELETE/RENAME messages are controlled as before by the SUPPRESS_DRMSGS option

(DFSMS) Informational messages by DELETE and RENAME

⊕ **Considerations**

- If you are running z/OS V1R13 and now specify SUPPRESS_DRMSGS(YES) option to suppress the IGD17054I message

  ➢ To continue to suppress it in z/OS V2R1, **you need to specify an additional SUPPRESS_SMSMSG(YES,IGD17054I) option** in IGDSMSxx parmlib member

    ✓ Without this action, the message IGD17054I is no longer suppressed

- Behavior in z/OS V2R1

  ➢ Effects of the combination by SUPPRESS_DRMSGS and SUPPRESS_SMSMSG

		JOBLOG	Hardcopy
SUPPRESS_SMSMSG (YES,IGD17054I)	**SUPPRESS_DRMSGS(YES)**	**Suppress**	**Suppress**
SUPPRESS_SMSMSG (YES,IGD17054I)	SUPPRESS_DRMSGS(NO)	**Suppress**	**Suppress**
SUPPRESS_SMSMSG (NO,IGD17054I)	SUPPRESS_DRMSGS(YES)	**Not suppress**	**Not suppress**
SUPPRESS_SMSMSG (NO,IGD17054I)	SUPPRESS_DRMSGS(NO)	**Not suppress**	**Not suppress**

(DFSMS) Restriction for IEBGENER utility program

✛ **Change in z/OS V2R1**

- When running IEBGENER utility program to **copy RECFM V(B) data set to other RECFM V(B) data set** <u>without editing control statement</u> (//SYSIN DD DUMMY)

  ➢ **If "LRECL of SYSUT1" > "LRECL of SYSUT2"**

    ✓ COPY operation fails with IEB311I CONFLICTING DCB PARAMETERS (CC12)

- Changed by DFSMS APAR OA39702 (PTF shipped to z/OS V1R11,V1R12,V1R13)

  ➢ CHANGED CODE TO RESTRICT IEBGENER TO COPYING V(B) DATA SETS TO OTHER V(B) DATA SETS WITHOUT EDITING TO CASES WHERE THE OUTPUT LRECL IS EQUAL TO OR GREATER THAN THE INPUT LRECL. OTHERWISE MESSAGE IEB311I WILL BE ISSUED

    ✓ For z/OS V1R12: PTF is UA65693 which was superseded by PTF UA65723

    ✓ For z/OS V1R13: PTF is UA65694 which was superseded by PTF UA65724

- HOLD(DOC) information is provided by DFSMS APAR OA41064

✛ **Considerations**

- <u>You need to adjust the LRECL of SYSUT1/SYSUT2 to meet this new restriction</u>

- This change is also applicable to the following situation

  ➢ **No record in SYSUT1 is larger than SYSUT2 LRECL**

(DFSMS) Restriction for IEBGENER utility program

✣ **Examples**

```
Command - Enter "/" to select action                    Dsorg  Recfm  Lrecl  Blksz
--------------------------------------------------------------------------------------
          BEANS.TEST.D0629.VB150                          PS     VB      150  27998
          BEANS.TEST.D0629.VB76                           PS     VB       76  27998
```

```
 BROWSE     BEANS.TEST.D0629.VB150                         Line 00000000 Col 001 080
----+----1----+----2----+----3----+----4----+----5----+----6----+----7----+----8
12345678901234567890123456789012345678901234567890
12345678901234567890123456789012345678901234567890
```

```
//BEANSZZ    JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//STEP1      EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=*
//SYSUT1    DD DSN=BEANS.TEST.D0629.VB150,DISP=SHR
//SYSUT2    DD DSN=BEANS.TEST.D0629.VB76,DISP=SHR
//SYSIN     DD DUMMY
```

z/OS V1R12 without APAR OA39702
IEF142I BEANSZZ STEP1 - STEP WAS EXECUTED - COND CODE 0000

```
 BROWSE     BEANS.TEST.D0629.VB76                          Line 00000000 Col 001 072
----+----1----+----2----+----3----+----4----+----5----+----6----+----7----+----8
12345678901234567890123456789012345678901234567890
12345678901234567890123456789012345678901234567890
```

z/OS V1R12 with APAR OA39702
IEF142I BEANSZZ STEP1 - STEP WAS EXECUTED - COND CODE 0012

z/OS V2R1
IEF142I BEANSZZ STEP1 - STEP WAS EXECUTED - COND CODE 0012

20

(DFSMS) Restriction for IEBGENER utility program

✦ **Change in z/OS V2R1**

- When the IEBGENER step is completed with **CC12** (for example, IEB311I CONFLICTING DCB PARAMETERS)

  ➢ "**PROCESSING ENDED AT EOD**" message is no longer written to the SYSPRINT

- Reason for this change:

  ➢ The "PROCESSING ENDED AT EOD" implies that the data was copied during the IEBGENER step, and that the end of data on the input data set was reached. However, **all the data is not going to be copied during the IEBGENER step** because there are DCB parameters that differ between the input and output data set. For this reason, the "PROCESSING ENDED AT EOD" message is not issued if IEBGENER did not copy all of the data.

- Changed by DFSMS APAR OA39702 (PTF shipped to z/OS V1R11,V1R12,V1R13)

  ➢ For z/OS V1R12: PTF is UA65693 which was superseded by PTF UA65723

  ➢ For z/OS V1R13: PTF is UA65694 which was superseded by PTF UA65724

✦ **Considerations**

- If you notice this change after migration, it's working as expected

21

(DFSMS) Restriction for IEBGENER utility program

✦ **Examples – SYSPRINT**

Without editing control statement (CC12)

Before change	After change
1DATA SET UTILITY – GENERATE – IEB311I CONFLICTING DCB PARAMETERS **PROCESSING ENDED AT EOD**	1DATA SET UTILITY – GENERATE –IEB311I CONFLICTING DCB PARAMETERS

With editing control statement (CC12)

Before change	After change

1DATA SET UTILITY – GENERATE
 	
–   GENERATE MAXFLDS=1
 	
    RECORD FIELD=(60,1,,1)
 	
 IEB311I CONFLICTING DCB PARAMETERS
PROCESSING ENDED AT EOD
	1DATA SET UTILITY – GENERATE
	
	– GENERATE MAXFLDS=1
	
	    RECORD FIELD=(60,1,,1)
	
	 IEB311I CONFLICTING DCB PARAMETERS

22

(DFSMS) Output from IDCAMS LISTCAT LEVEL command

- ✛ **Behavior in z/OS V1R12**

  - ● **IDCAMS LISTCAT LEVEL command output**

    - ➢ Only includes entries <u>that have additional qualifiers after those specified</u>

    - ➢ Additional qualifiers include GDG data sets that are defined, for example

      - ✓ **Empty GDG base entries are not be included**

- ✛ **Change in z/OS V2R1**

  - ● LISTCAT LEVEL output is enhanced

    - ➢ The behavior is updated to return entries matching the key of the level specified as well as any keys with additional qualifiers

      - ✓ <u>To be similar to ISPF OPT3.4</u>

  - ● *The title of manual is changed !!*

    - ➢ z/OS V1R12.0 DFSMS AMS for Catalogs (SC26-7394)

    - ➢ z/OS DFSMS Access Method Services Commands Version 2 Release 1 (SC23-6846)

(DFSMS) Output from IDCAMS LISTCAT LEVEL command

- **Test scenario (z/OS V1R12 vs. V2R1)**

  - Case-1: LISTC LVL(BEANS.TEST.GDG2) ALL

  - Case-2: LISTC LVL(BEANS.TEST.GDG2) ALL **CREATION(0)**

    - Entries are to be listed only if they were created the specified number of days ago or earlier

      - ✓ **Zero indicates that all entries are to be listed**

  - PGM=IDCAMS and PGM=IDCNOGFL

  - GDG base BEANS.TEST.GDG2 has no GDS (empty)

```
GDG BASE ------ BEANS.TEST.GDG2
    IN-CAT --- CATALOG.ZR1C.MASTER                              z/OS V1R12
    HISTORY
      DATASET-OWNER-----(NULL)       CREATION--------2014.180
      RELEASE---------------2        LAST ALTER------2014.180
    ATTRIBUTES
      LIMIT-----------------5        NOSCRATCH        NOEMPTY
    ASSOCIATIONS-------(NULL)
```

```
GDG BASE ------ BEANS.TEST.GDG2
    IN-CAT --- USER.FS16.CATALOG                                z/OS V2R1
    HISTORY
      DATASET-OWNER-----(NULL)       CREATION--------2013.148
      RELEASE---------------2        LAST ALTER------2013.148
    ATTRIBUTES
      LIMIT-----------------5        NOSCRATCH  NOEMPTY    LIFO
    ASSOCIATIONS-------(NULL)
```

(DFSMS) Output from IDCAMS LISTCAT LEVEL command

- ✛ **Case-1: LISTC LVL(BEANS.TEST.GDG2) ALL**

    - ● PGM=IDCAMS

        - ➢ In z/OS V1R12, the empty GDG base entry is **not listed and CC04** is generated

        - ➢ In z/OS V2R1, the empty GDG base entry is **listed and CC00** is generated

    - ● Informational APAR II14670 and z/OS V2R1 Migration book well describes this change

        - ➢ Not only the information returned is different, but the return code and condition codes may be different as of z/OS V2R1

    - ● PGM=IDCNOGFL

        - ➢ The behavior is not changed in z/OS V2R1

	z/OS V1R12	z/OS V2R1

PGM= IDCAMS	CC04
	
	IDC3012I ENTRY BEANS.TEST.GDG2 NOT FOUND
	
	IDC3007I ** VSAM CATALOG RETURN-CODE IS 8
	
	IDC1566I ** BEANS.TEST.GDG2 NOT LISTED
		CC00
		
		GDG BASE ------ BEANS.TEST.GDG2
		
		    IN-CAT --- USER.FS16.CATALOG
		
		    HISTORY < snipped >

PGM= IDCNOGFL	CC04 IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND IDC3007I ** VSAM CATALOG RETURN CODE IS 8 IDC1566I ** BEANS.TEST.GDG2 NOT LISTED	CC04 IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND IDC3007I ** VSAM CATALOG RETURN CODE IS 8 IDC1566I ** BEANS.TEST.GDG2 NOT LISTED

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(DFSMS) Output from IDCAMS LISTCAT LEVEL command

- ⊕ **Case-2: LISTC LVL(BEANS.TEST.GDG2) ALL CREATION(0)**

  - PGM=IDCAMS

    - ➤ In z/OS V1R12, the empty GDG base entry is **not listed and CC04** is generated

    - ➤ In z/OS V2R1, **the same behavior as z/OS V1R12 (CC04)**

  - Our expectation is "GDG base entry is listed with CC00" as Case-1

    - ➤ Unexpected behavior for CREATION(0000) is also observed in EXPIRATION(9999)

  - **Opened DFSMS APAR OA44634 (IDCAMS) and APAR OA45455 (Catalog)**

  - PGM=IDCNOGFL

    - ➤ The behavior is not changed in z/OS V2R1

	z/OS V1R12	z/OS V2R1
`PGM=` `IDCAMS`	<u>CC04</u> IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND IDC3007I ** VSAM CATALOG RETURN CODE IS 8 IDC1566I ** BEANS.TEST.GDG2 NOT LISTED	<u>CC04</u> **IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND** **IDC3007I ** VSAM CATALOG RETURN CODE IS 8** **IDC1566I ** BEANS.TEST.GDG2 NOT LISTED**
`PGM=` `IDCNOGFL`	<u>CC04</u> IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND IDC3007I ** VSAM CATALOG RETURN CODE IS 8 IDC1566I ** BEANS.TEST.GDG2 NOT LISTED	<u>CC04</u> IDC3012I ENTRY BEANS.TEST.GDG2. NOT FOUND IDC3007I ** VSAM CATALOG RETURN CODE IS 8 IDC1566I ** BEANS.TEST.GDG2 NOT LISTED

(HLASM) SDB for SYSLIN and SYSPUNCH

⊕ **Behavior in z/OS V1R12, V1R13, and V2R1 (Before HLASM APAR PI10515)**

- High Level Assembler supports z/OS System-Determined Blocksize (SDB) for all output data sets

  ➢ **Except SYSLIN (OBJECT) and SYSPUNCH (DECK)**

- When a SYSPUNCH or SYSLIN data set is created by HLASM on z/OS

  ➢ And the BLKSIZE parameter is either not specified or specified with a value of 0

    ✓ HLASM will create a data set which has a <u>BLKSIZE equal to the LRECL value</u>

⊕ **Change in z/OS V1R12, V1R13, and V2R1 (After HLASM APAR PI10515)**

- HLASM now <u>supports the SDB for SYSLIN and SYSPUNCH</u> data sets

  ➢ HLASM is modified not to set the default BLKSIZE to LRECL

- If a block size of zero is supplied for SYSLIN and SYSPUNCH data sets

  ➢ **HLASM will now leave the BLKSIZE as zero**

    ✓ It allows DFSMS to determine the block size based upon its criteria

27

(HLASM) SDB for SYSLIN and SYSPUNCH

⊕ **Considerations**

- When you invoke the **linkage editor (HEWLKED)** rather than the Binder (IEWBLINK)

  ➢ The maximum block size of data sets defined in the SYSLIN definition is **3200 bytes**

- After HLASM APAR PI10515 (PTF UI15579)

  ➢ When the BLKSIZE is not supplies to the SYSLIN data set in ASM step

    ✓ It is created with **large block size (27920) by SDB** and the old Linkage Editor does not accept the block size larger than 3200 (**CC16**)

    ✓ *IEW0594 ERROR - INPUT DATA SET BLOCKSIZE IS INVALID*

- To avoid using SDB when invoking the HEWLKED linkage editor

  ➢ You need to supply a BLKSIZE of 3200 or less to the SYSLIN data set in ASM step

    ✓ A multiple of the LRECL is required

28

(HLASM) SDB for SYSLIN and SYSPUNCH

⊕ **Considerations (continued)**

- Additional Information (AI) with PTF UI15579

```
COMMENTS:
Users of the HEWLKED linkage editor should specify a valid blocksize
for their HLASM SYSLIN DD statements.
The maximum blocksize of data sets defined in the SYSLIN definition of
HEWLKED is 3200 bytes.
For more details on HEWLKED, see MVS Program Management:
User's Guide and Reference Version 2 Release 1 (SA23-1393-00)
```

- DOC APAR PI19003

- PSP Bucket (Upgrade HLASM160, Subset HMQ4160)

(TCP/IP) FTP definitions in IKJTSOxx parmlib member

- **Change in z/OS V2R1**

  - Beginning in z/OS V2R1, the z/OS FTP client supports user exits

    - FTP client invokes z/OS Dynamic Exit Services (DES) to determine whether you have installed FTP client user exit EZAFCCMD or EZAFCREP

      - To invoke DES successfully, **the program FTP must be APF authorized**

  - If you invoke the z/OS FTP client in TSO/E environment

    - **You must add FTP to the AUTHCMD and AUTHPGM NAMES section of your IKJTSOxx parmlib member**

  - Otherwise, the following error messages are displayed when you start the FTP client

    - EZA1555I CSVDYNEX DEFINE failed for user exit EZAFCCMD, RETURN CODE x'08' REASON CODE x'00000804'

    - EZA1555I CSVDYNEX DEFINE failed for user exit EZAFCREP, RETURN CODE x'08' REASON CODE x'00000804'

      - Allowing ALTER access to RACF FACILITY CLASS profile CSVDYNEX makes an exception to suppress the error messages

  - In z/OS V2R1, **SYS1.SAMPLIB(IKJTSO00) member** contains the FTP definitions in both AUTHCMD and AUTHPGM NAMES section

This was an original migration action when z/OS V2R1 was available

(TCP/IP) FTP definitions in IKJTSOxx parmlib member

⊕ **Considerations**

- TCP/IP APAR PI13288 made this an **exploitation action** rather than a migration action

  ➢ Add FTP in the AUTHCMD and AUTHPGM NAMES section of your IKJTSOxx parmlib member **if you want to use the z/OS FTP client user exits**

- Prior to applying APAR PI13288

  ➢ If not adding AUTHCMD/AUTHPGM NAMES(FTP), you will receive the message EZA1555I during the FTP client initialization

    ✓ It is no problem to ignore that message, if you do not intend to use the new feature of FTP client Security Exit

- After the APAR PI13288 is applied

  ➢ The message EZA1555I is removed

    ✓ If you do not intend to use the new feature of FTP client Security Exit, **you do not need to add AUTHCMD/AUTHPGM NAMES(FTP)**

- TSO/E APAR OA45541

  ➢ SYS1.SAMPLIB member IKJTSO00 is updated to remove FTP from the AUTHCMD, AUTHPGM, and AUTHTSF NAMES lists

    ✓ This reverses the changes that was introduced previously into IKJTSO00 for z/OS V2R1 (HTE7790) relative to FTP

31

(JES2) Message $HASP165 (MAXCC) and $HASP890 (CC)

- ✛ **Change in z/OS V1R13**

  - ● The NOTIFY message when job is completed

    - ➢ **MAXCC in message $HASP165 is changed to display 4 digits**

      - ✓ z/OS V1R12

```
SE '21.57.08 JOB01988 $HASP165 BEANSZZ  ENDED AT N1  MAXCC=8',LOGON,
USER=(BEANS)
```

      - ✓ z/OS V1R13

```
SE '16.15.05 JOB02838 $HASP165 BEANSZZ  ENDED AT N1  MAXCC=0008',LOGON,
USER=(BEANS)
```

      - ✓ z/OS V2R1

```
SE '22.03.56 JOB02763 $HASP165 BEANSZZ  ENDED AT M3  MAXCC=0008',LOGON,
USER=(BEANS)
```
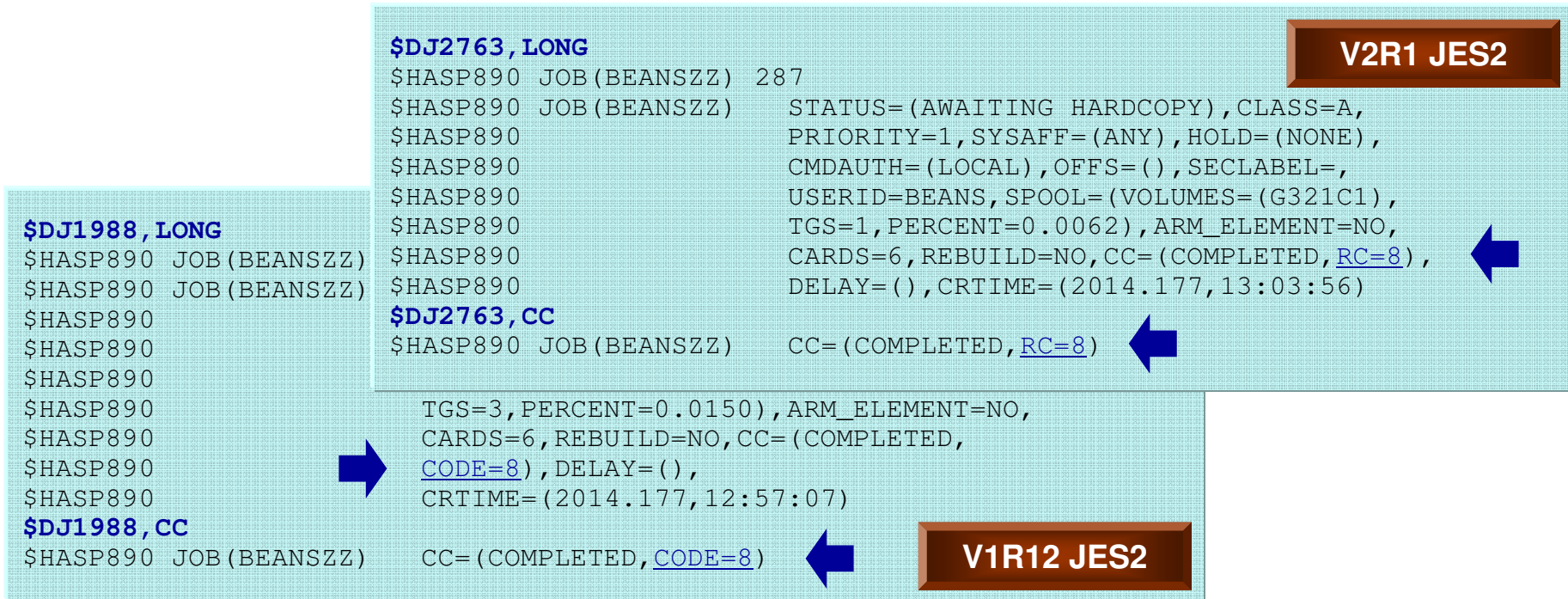
    - ➢ This change is still applicable when JOBRC=MAXRC, which is a default option, is in effect

  - ● If you run multiple JES2 levels in MAS configuration and the job has executed on z/OS V1R12 member

    - ➢ $HASP165 will be issued with the single digit as before

(JES2) Message $HASP165 (MAXCC) and $HASP890 (CC)

- **Change in z/OS V1R13**

  - The response message from JES2 $DJ command

    - **The CC portion is changed in $HASP90 message**

      - ✓ z/OS V1R12: CC=(COMPLETED,CODE=n)

      - ✓ z/OS V1R13: CC=(COMPLETED,RC=n)

      - ✓ z/OS V2R1: CC=(COMPLETED,RC=n)

```
$DJ2763,LONG                                                    V2R1 JES2
$HASP890 JOB(BEANSZZ) 287
$HASP890 JOB(BEANSZZ)     STATUS=(AWAITING HARDCOPY),CLASS=A,
$HASP890                  PRIORITY=1,SYSAFF=(ANY),HOLD=(NONE),
$HASP890                  CMDAUTH=(LOCAL),OFFS=(),SECLABEL=,
$HASP890                  USERID=BEANS,SPOOL=(VOLUMES=(G321C1),
$HASP890                  TGS=1,PERCENT=0.0062),ARM_ELEMENT=NO,
$HASP890                  CARDS=6,REBUILD=NO,CC=(COMPLETED,RC=8),  ⬅
$HASP890                  DELAY=(),CRTIME=(2014.177,13:03:56)
$DJ2763,CC
$HASP890 JOB(BEANSZZ)     CC=(COMPLETED,RC=8)  ⬅
```

```
$DJ1988,LONG
$HASP890 JOB(BEANSZZ)
$HASP890 JOB(BEANSZZ)
$HASP890
$HASP890
$HASP890
$HASP890
$HASP890              TGS=3,PERCENT=0.0150),ARM_ELEMENT=NO,
$HASP890              CARDS=6,REBUILD=NO,CC=(COMPLETED,
$HASP890          ➡  CODE=8),DELAY=(),
$HASP890              CRTIME=(2014.177,12:57:07)
$DJ1988,CC
$HASP890 JOB(BEANSZZ)     CC=(COMPLETED,CODE=8)  ⬅      V1R12 JES2
```

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(JES2) Message $HASP165 (MAXCC) and $HASP890 (CC)

✛ **Related topic: New function in z/OS V1R13**

```
//BEANSZZ    JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
//STEP1     EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
   DELETE BEANS.TEST.NOEXIST NONVSAM
/*
//STEP2     EXEC PGM=IEFBR14


IEF142I BEANSZZ STEP1 – STEP WAS EXECUTED – COND CODE 0008
IEF142I BEANSZZ STEP2 – STEP WAS EXECUTED – COND CODE 0000


SE '17.54.52 JOB06938 $HASP165 BEANSZZ  ENDED AT M3  MAXCC=0008',LOGON,
USER=(BEANS)
```

JOBRC=MAXRC

```
//BEANSZZ    JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID,
//              JOBRC=LASTRC
//STEP1     EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
   DELETE BEANS.TEST.NOEXIST NONVSAM
/*
//STEP2     EXEC PGM=IEFBR14


IEF142I BEANSZZ STEP1 – STEP WAS EXECUTED – COND CODE 0008
IEF142I BEANSZZ STEP2 – STEP WAS EXECUTED – COND CODE 0000


SE '17.54.41 JOB06937 $HASP165 BEANSZZ  ENDED AT M3 – JOBRC=0000',LOGON,
USER=(BEANS)
```

JOBRC=LASTRC

(JES2) Error processing during INPUT phase

- **Change in z/OS V2R1**

  - JES2 input phase still detects errors and jobs are always queued to the conversion phase

    - The input errors (HASPxxx) are added to errors found by conversion

      - ✓ They are reported in the same way on JESYSMSG, which means a JCL ERROR

  - The statement number is assigned to the JECL

```
    1 //BEANSZZ   JOB MSGCLASS=H,MSGLEVEL=(1,1),CLASS=A,SYSAFF=GCOC
    2 /*JOBPARM SYSAFF=GCOC
    3 //STEP1 EXEC PGM=IEFBR14,REGION=0M
STMT NO. MESSAGE
    2 HASP112 SYSAFF ignored because SYSAFF or SYSTEM specified on JOB card
```

	z/OS V1R12 JES2	z/OS V2R1 JES2
JESJCLIN	**$HASP106 JOB DELETED BY JES2 OR CANCELLED BY OPERATOR BEFORE EXECUTION**	N/A
JESMSGLG	JCL ERROR not happened	**IEFC452I jobname – JOB NOT RUN – JCL ERROR** **$HASP106 JOB DELETED BY JES2 OR CANCELLED BY OPERATOR BEFORE EXECUTION**
JESYSMSG	N/A	**Error and warning messages (HASPxxx) with converter error messages**
SYSLOG (Hardcopy)	**Error messages ($HASPxxx)**	**Error messages ($HASPxxx)** **IEFC452I jobname – JOB NOT RUN – JCL ERROR**

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(JES2) Error processing during INPUT phase

- ✛ **z/OS V1R12 (JOBDEF JCLERR=YES and <u>NO</u>)**

  - ● **JCL ERROR not happened**

  - ● NO JESJCL generated

  - ● NO JESYSMSG generated

```
JESJCLIN  //BEANSZZ   JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID    JOB01990
          /*JOBPARM PROC=PROC99                                               00020001
          ******* NON-VALID JOBPARM  STMT - UNEXPECTED KEYWORD DETECTED - PROC    ******
          //STEP1 EXEC PGM=IEBDG,REGION=0M                                    00030001
          //SYSPRINT DD SYSOUT=*                                              00040001
          //DATASET1 DD SYSOUT=*                                             00050001
          //SYSIN DD DATA,DLM=$$$$                                           00060001
          ******** NON-VALID DD      STMT - VALUE FOR DLM      KEYWORD NOT VALID *******
          $HASP106 JOB DELETED BY JES2 OR CANCELLED BY OPERATOR BEFORE EXECUTION
          ------ JES2 JOB STATISTICS ------
                       7 CARDS READ
                      11 SYSOUT PRINT RECORDS
                       0 SYSOUT PUNCH RECORDS
                       0 SYSOUT SPOOL KBYTES
                    0.00 MINUTES EXECUTION TIME
JESMSGLG                        J E S 2   J O B   L O G  --  S Y S T E M   C C O C  --  N

          22.26.12 JOB01990 ---- THURSDAY,  26 JUN 2014 ----
          22.26.12 JOB01990  IRR010I  USERID BEANS    IS ASSIGNED TO THIS JOB.
SYSLOG    $HASP107 BEANSZZ  -- NON-VALID JOBPARM  STMT - UNEXPECTED KEYWORD
          DETECTED - PROC
          $HASP107 BEANSZZ  -- NON-VALID DD       STMT - VALUE FOR DLM
          KEYWORD NOT VALID
          $HASP119 BEANSZZ DELETED - ILLEGAL JECL CARD, RC=8
          IRR010I  USERID BEANS    IS ASSIGNED TO THIS JOB.
          SE '22.26.12 JOB01990 $HASP165 BEANSZZ  ENDED AT N1 - JCL ERROR',LOGON,
          USER=(BEANS)
```

(JES2) Error processing during INPUT phase

- ✛ **z/OS V2R1 (JOBDEF LOGMSG=<u>ASIS</u>)**

  - **JOB NOT RUN - JCL ERROR**

  - NO JESJCLIN generated

```
JESMSGLG                    J E S 2   J O B   L O G  --  S Y S T E M   G C O C  --  N

          11.21.28 JOB02955 ---- TUESDAY,   14 JAN 2014 ----
          11.21.28 JOB02955  IRR010I  USERID IBMUSER   IS ASSIGNED TO THIS JOB.
          11.21.28 JOB02955  IEFC452I BEANSZZ - JOB NOT RUN - JCL ERROR  877
          $HASP106 JOB DELETED BY JES2 OR CANCELLED BY OPERATOR BEFORE EXECUTION
          ------ JES2 JOB STATISTICS ------
                    7 CARDS READ
                   22 SYSOUT PRINT RECORDS
                    0 SYSOUT PUNCH RECORDS
                    1 SYSOUT SPOOL KBYTES
                 0.00 MINUTES EXECUTION TIME
JESJCL       1 //BEANSZZ   JOB CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=&SYSUID
               IEFC653I SUBSTITUTION JCL - CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1),NOTIFY=I
             2 /*JOBPARM PROC=PROC99
             3 //STEP1 EXEC PGM=IEBDG,REGION=0M
             4 //SYSPRINT DD SYSOUT=*
             5 //DATASET1 DD SYSOUT=*
             6 //SYSIN DD DATA,DLM=$$$$
JESYSMSG   STMT NO. MESSAGE
             2 HASP107 UNEXPECTED KEYWORD DETECTED - PROC
             6 HASP107 value for DLM keyword not valid
SYSLOG     $HASP107 BEANSZZ  -- NON-VALID JOBPARM  STMT - UNEXPECTED KEYWORD
           DETECTED - PROC
           $HASP107 BEANSZZ  -- Non-valid DD      STMT - value for DLM keyword not
            valid
           $HASP119 BEANSZZ DELETED - ILLEGAL JECL CARD, RC=8
           IRR010I  USERID IBMUSER  IS ASSIGNED TO THIS JOB.
           IEFC452I BEANSZZ - JOB NOT RUN - JCL ERROR 877
           SE '11.21.28 JOB02955 $HASP165 BEANSZZ  ENDED AT G9 - JCL ERROR',LOGON,
           USER=(IBMUSER)
```

(JES2) Error processing during INPUT phase

✥ **Considerations**

- In addition to the existing IEFC converter error messages

  ➢ **JESYSMSG data set in the job log contains both HASP error and warning messages (HASPxxx)**

- The HASP messages from the JES2 input phase that write to the JESYSMSG <u>can be mixed-case</u>

  ➢ Only in the job log, you can change the messages to uppercase by specifying the **LOGMSG=FOLD** option in JOBDEF initialization statement

    ✓ JOBDEF LOGMSG=<u>ASIS</u>

    ```
    STMT NO. MESSAGE
          1 HASP110 CLASS ABC        is not valid
          2 HASP107 UNEXPECTED KEYWORD DETECTED – PROC
          3 IEFC630I UNIDENTIFIED KEYWORD REGON
          6 HASP107 value for DLM keyword not valid
    ```

    ✓ JOBDEF LOGMSG=FOLD

    ```
    STMT NO. MESSAGE
          1 HASP110 CLASS ABC        IS NOT VALID
          2 HASP107 UNEXPECTED KEYWORD DETECTED – PROC
          3 IEFC630I UNIDENTIFIED KEYWORD REGON
          6 HASP107 VALUE FOR DLM KEYWORD NOT VALID
    ```

- JES2 DOC APAR OA43513 mentions the mixed-case HASP messages that are introduced in z/OS V2R1

(JES2) Resetting JOBCLASS by Exit 6, 3, and 53

✛ **Change in z/OS V2R1**

- **JES2 supports multiple characters (2 to 8) JOBCLASS**

  ➢ In prior to this change, only 1 character (A to Z, 0 to 9) was allowed for JES2 JOBCLASS

  ➢ To use this new capability, <u>all the JES2 MAS member must be running z/OS V2R1 with z11 checkpoint mode</u>

- Regardless of the checkpoint mode, the length of JOBCLASS field in message $HASP373 is updated, for example

  ➢ z/OS V1R12 JES2:

  ```
  $HASP373 BEANSZZ  STARTED - INIT 1     - CLASS A - SYS CCOC
  ```

  ➢ z/OS V2R1 JES2:

  ```
  $HASP373 BEANSZZ  STARTED - INIT 1     - CLASS A      - SYS MCOC
  ```

- The behavior in SDSF display is the same <u>unless multiple characters JOBCLASS is used</u>

  ➢ DA panel display in z/OS V2R1, for example

```
 Display  Filter  View  Print  Options  Search  Help

SDSF DA MCOC     MCOC      PAG  0  CPU   2              LINE 1-2 (2)
NP   JOBNAME  StepName ProcStep JobID    Owner    C Pos DP Real Paging     SIO
     BEANSZZ  STEP1             JOB07507 BEANS    A LO  FF  345  0.00      0.00
     BEANS    IKJACCNT EXL421G  TSU07504 BEANS      IN  F2 1824  0.00      0.00
```

39

(JES2) Resetting JOBCLASS by Exit 6, 3, and 53

⊕ **Considerations**

- **Exits 3 and 53** that attempt to alter a job's class <u>by setting JCTJCLAS</u> no longer work

  ➢ It's a common function to alter a job's execution class by setting JCTJCLAS

  ➢ However, with the introduction of 8 character job classes, <u>this technique no longer works</u>

    ✓ Regardless of the JES2 checkpoint mode (z2 or z11)

- Resolution by z/OS V2R1 JES2 APAR OA45118

  ➢ **A new 8 character job class field is added to the parameter list ($XPL) for exits 3 and 53 (X003JCLS and X053JCLS).** This field on entry will contain the current job class for the job and allows the exit to update the field with a new job class. This job class will be used instead of the one currently associated with the job.

    ✓ This approach is similar to exits 2 and 52 (X002OCLS and X052OCLS)

  ➢ If the JCTJCLAS field is updated directly by exit 3 or 53

    ✓ The updated code will honor that change and propagate it to the appropriate 8 character job class fields

    ✓ **You do not need to update the new JCXJCLA8 (8 character JOBCLASS) field in the JCX**

40

(JES2) Resetting JOBCLASS by Exit 6, 3, and 53

✛ **Summary of actions (JES2 Exit 6, 3, 53)**

● To alter or reset the JOBCLASS

	z/OS V1R12 and V1R13 JES2	z/OS V2R1 JES2 without APAR OA45118	z/OS V2R1 JES2 with APAR OA45118
Exit 6	3: Updates JCTJCLAS field (JCT)	**Either action needed** 1: Updates XPL field **X006JCLS** 2: Updates JCXJCLA8 field (JCTX) 3: Updates JCTJCLAS field (JCT)	
Exit 3		**Both actions needed** 2: Updates JCXJCLA8 field (JCTX) 3: Updates JCTJCLAS field (JCT)	**Either action needed** 1: Updates XPL field **X003JCLS** 2: Updates JCXJCLA8 field (JCTX) 3: Updates JCTJCLAS field (JCT)
Exit 53			**Either action needed** 1: Updates XPL field **X053JCLS** 2: Updates JCXJCLA8 field (JCTX) 3: Updates JCTJCLAS field (JCT)

41

(JES2) Resetting JOBCLASS by Exit 6, 3, and 53

✛ **Related topic**

- When <u>exit 44 (JES2 Converter exit) or any of the input phase exits</u> attempts to modify a batch job's scheduling environment (SCHENV) or job class

  ➢ **The update is no longer reflected**

- Resolution by z/OS V2R1 JES2 APAR OA45259

  ➢ Two new fields are added to the XPL for exit 44

    ✓ Current job class (X044JCLS)

    ✓ Scheduling environment (X044SCHE)

  ➢ <u>If the individual field JCTSCHEN or JQASCHE is updated by the exit</u>

    ✓ The JES2 code will detect the change and set all appropriate fields

42

(JES2) Syntax of INIT JOBCLASS definition

✥ **Change in z/OS V2R1**

- In prior to z/OS V2R1 JES2

  ➢ The syntax for $DI,CLASS= parameter (or $TI) was a classlist

    ✓ A list of single character job classes A-Z and 0-9

    ✓ A maximum of 36 classes can be specified

  ➢ **Examples of this syntax were CL=A or CL=ABC**

- In z/OS V2R1 JES2

  ➢ As part of multiple characters JOBCLASS support

    ✓ JES2 <u>introduces a new format</u> for this CLASS= parameter

  ➢ The new format is a comma-separated list of job classes -or- job class groups (each 1-8 characters in length)

    ✓ A maximum of eight items can be specified in this list

  ➢ **Examples of this syntax are CL=(A) or CL=(A,B,CLASS1)**

- You have to use the new format

  ➢ If the multiple characters JOBCLASS or JOBCLASS GROUP are to be specified

43

(JES2) Syntax of INIT JOBCLASS definition

⊕ **Considerations**

- There is no overlap between these two formats for the purposes of displays

  1. A display command $DI is issued using the new syntax CL=(A)

  2. Initiators defined with pre V2R1 syntax such as CL=A are not returned on the display

  3. The reverse scenario is also true if a $DI(*),CL=A is issued and new format is not returned

- Circumvention:

  ➢ Issue both $DI(*),CL=A and $DI(*),CL=(A) to ensure both formats are displayed

- **Opened JES2 APAR OA44670**

  ➢ <u>It's very confusing</u>

    ✓ Because, $DI,CL=A command does *not* display the INIT 1 defined with CL=(A) while the job specified CLASS=A is actually <u>selected on the INIT 1 defined with CL=(A)</u>

  ➢ Summary of current behavior:

	`$DI,CL=A`	`$DI,CL=(A)`
`INIT(y),CL=A`	Listed	Not listed
`INIT(y),CL=AB`	Not listed	Not listed
`INIT(y),CL=(A)`	Not listed	Listed
`INIT(y),CL=(A,B)`	Not listed	Listed

44

(JES2) Syntax of INIT JOBCLASS definition

✥ **Considerations (continued)**

● Examples of incomplete or missing display output:

```
$DI,CL=ABCD        #1
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=ABCD,NAME=5
$HASP892 INIT(6)    STATUS=DRAINED,CLASS=ABCD,NAME=6
.
$TI(5),CL=(A,B,C,D)        #2
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=(A,B,C,D),NAME=5
.
$DI,CL=(A,B,C,D)        #3
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=(A,B,C,D),NAME=5
.
$DI,CL=ABCD        #4
$HASP892 INIT(6)    STATUS=DRAINED,CLASS=ABCD,NAME=6
```

Why was INIT(5) not displayed? →

```
$DI,CL=A        #5
$HASP892 INIT(1)    STATUS=INACTIVE,CLASS=A,NAME=1,ASID=002D
.
$DI,CL=(A)        #6
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=(A,B,C,D),NAME=5
```

Why was INIT(1) not displayed? →

```
$DI,CL=(A,B)        #7
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=(A,B,C,D),NAME=5
.
$DI,CL=(A,B,C)        #8
$HASP892 INIT(5)    STATUS=DRAINED,CLASS=(A,B,C,D),NAME=5
```

Why was INIT(5) displayed? →

45

(JES2) Syntax of INIT JOBCLASS definition

✥ **Considerations (continued)**

- The change of definition to CL=(A) from CL=A is unintentionally happened

  ➢ When the multiple characters JOBCLASS is dynamically added and deleted

    ✓ JOBCLASS assigned to the INIT is **updated to CLASS=(A) rather than CL=A**

```
$DI(1)
$HASP892 INIT(1)    STATUS=INACTIVE,CLASS=A,NAME=1,ASID=001B
$ADD JOBCLASS(XYZ)
$HASP837 JOBCLASS(XYZ) 875
$HASP837 JOBCLASS(XYZ)        ACTIVE=YES,GROUP=,MODE=JES,
$HASP837                      QAFF=(ANY),QHELD=NO,SCHENV=,
$HASP837                      XEQCOUNT=(MAXIMUM=*,CURRENT=0),
$HASP837                      XEQMEMBER(XXXX)=(MAXIMUM=*,
$HASP837                      CURRENT=0)
$TI(1),CL=(A,XYZ)
$HASP892 INIT(1) 877
$HASP892 INIT(1)    STATUS=INACTIVE,CLASS=(A,XYZ),NAME=1,
$HASP892            ASID=001B
$TJOBCLASS(XYZ),ACTIVE=NO
$HASP837 JOBCLASS(XYZ) 907
$HASP837 JOBCLASS(XYZ)        ACTIVE=NO,GROUP=,MODE=JES,
$HASP837                      QAFF=(ANY),QHELD=NO,SCHENV=,
$HASP837                      XEQCOUNT=(MAXIMUM=*,CURRENT=0),
$HASP837                      XEQMEMBER(XXXX)=(MAXIMUM=*,
$HASP837                      CURRENT=0)
$DEL JOBCLASS(XYZ)
$HASP837 JOBCLASS(XYZ)        - ELEMENT DELETED
$DI(1)
$HASP892 INIT(1)    STATUS=INACTIVE,CLASS=(A),NAME=1,ASID=001B
```

46

Today's summary

- **(DFSMS) FREE=CLOSE in DD concatenation**
  - Message IEC988I reflects the first data set in concatenation that encountered the FREE=CLOSE

- **(DFSMS) NOREUSE attribute for SMS ACDS and COMMDS**
  - VSAM attribute of ACDS and COMMDS is automatically altered to REUSE

- **(DFSMS) VARY OFFLINE during DSS COPY FULL COPYV**
  - Changes to use the IEEVARYD service to vary the target volume offline

- **(DFSMS) ABEND messages by OPEN, CLOSE, and EOV**
  - Recommend to check automated operation services that parse these messages

- **(DFSMS) Informational messages by DELETE and RENAME**
  - Issuance of IGD17054I message is controlled by a new option in IGDSMSxx parmlib member

- **(DFSMS) Restriction for IEBGENER utility program**
  - Need to adjust the LRECL of SYSUT1 and SYSUT2 data set to meet the new restriction

- **(DFSMS) Output from IDCAMS LISTCAT LEVEL command**
  - Watch out for APAR OA44634 (IDCAMS) and OA45455 (CATALOG) for CREATION(0) option

Today's summary (continued)

- **(HLASM) SDB for SYSLIN and SYSPUNCH**
  - Need to check if you invoke the linkage editor (HEWLKED) rather than the Binder (IEWBLINK)

- **(TCP/IP) FTP definitions in IKJTSOxx parmlib member**
  - TCP/IP APAR PI13288 makes it an exploitation action rather than a migration action

- **(JES2) Message $HASP165 (MAXCC) and $HASP890 (CC)**
  - MAXCC in message $HASP165 is changed to display 4 digits
  - CC portion is changed in $HASP890 message

- **(JES2) Error processing during INPUT phase**
  - Recommend to inform JCL user about the new behavior of error processing

- **(JES2) Resetting JOBCLASS by Exit 6, 3, and 53**
  - Need to consider action for Exits 3 and 53 to alter a job's class by setting JCTJCLAS

- **(JES2) Syntax of INIT JOBCLASS definition**
  - Watch out for APAR OA44670 (JES2) for the command operation by old and new syntax

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