

# PJ47200– Format only a selected dump area

Systems Control Program

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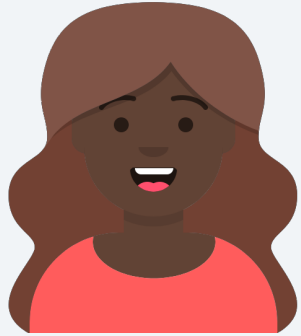
**IBM Z**

**IBM**

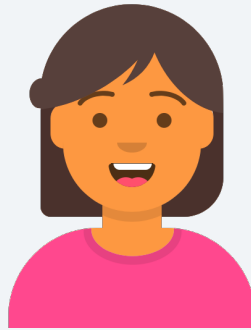
# Problem Statement

The size of dumps can be very large. As a result, getting the dump to the right person can be very time consuming

# Users



Carol  
Coverage  
programmer



Sophie  
Works with sending  
dumps to IBM

# Pain Points

- Looking for a specific override in the dump can be time consuming if it is near the end of the dump.
- The dump post processor (also know as the Diagnostic output formatter) does not have an option to select an individual area to be dumped
- Looking for a specific owner in a physical block (SWBS,XWBS,FRMS,CMBS,1MB Frames) can be time consuming
- Sending huge dumps to IBM can be time consuming

# As-Is User Story

- A 000002 (CTL-2) system error occurred in CCTCP1 within the control program, so it is reasonable to assume the TCP/IP tables needs to be examined first to help resolve the dump
- The size of the dump is 30GB.
- The entire dump needs to be sent to IBM for analysis
- It takes many hours to send the dump to IBM which delays problem analysis

# To-Be User Story

- A new SELECT option in the dump post processor JCL is used to provide only the area needed to solve the problem (in this case it is TCPIP override area)
- The post-processed dump is now 2 MB, which can be sent to IBM faster.

# SELECT OPTION

- Select option on the JCL
- Uses the selective memory dump table override (SMDT)
- See [Dump overrides for details](#)
- Limited to 20 characters (maximum size of an override is 64 characters)
- Limited to 1 override
- Specifies that you want the post processor to dump only the specified override
- Sample JCL to dump the TCP/IP areas

```
// PARM=('TV,Y,DP=ALLF,SELECT=(ITCP).')
```

# SELECT option

- If the dump contains the entire blocks (IECBS override) and the IECBUSE parameter is given on SELECT, then only the in-use blocks will be dumped

SELECT=(IECBUSE)

- Dumps are still the same until the SYSTEM STORAGE is displayed in the dump
- Current JCL will still work
- The SELECT=(INUSE) option will still work to dump only the in-use blocks when dumping blocks



# SELECT option example

The dump will be unchanged until the **SYSTEM STORAGE** is printed, and then only the selected area will be printed.

DUMP OF SYSTEM STORAGE FOLLOWS

LIMITED BY SELECT OPTION ISWBS

OWNERS OF BLOCK SWB

IECB	0000034
ISYSTEM	0000011
IDSCB	0000008
IEVENT	0000003

\*SYSTEM WORK BLOCK

\*BLOCK IN USE , OWNER=IECB

0000000013403400	000001F4	00000001	00005304	C3C8D2D7
...4.....				

# SELECT option example

The dump is normal until we hit the **SYSTEM STORAGE**.

If the area passed in the select parameter is not found, a warning will be issued.

```
DUMP OF SYSTEM STORAGE FOLLOWS  
LIMITED BY SELECT OPTION      ISWBUSD  
NO SELECTED STORAGE FOUND
```

# OWNER option

- Provides support to filter the z/TPF blocks (SWBS/XWBS/FRMS/FRM1MB/ECBS/CMBS) by the 8-character high level qualifier
- A 1- to 8-character OWNER name can be given
- Can work with or without the SELECT option
- Both in-use and blocks that are not in use can be filtered

# OWNER option

Dump all blocks that have an owner name starting with IE

```
// PARM=('TV,Y,DP=ALLF,OWNER=(IE).')
```

Dumps the in-use ECBs that have an owner name starting with I

```
// PARM=('TV,Y,DP=PRINT(4994F),SELECT=(IECBUSE),OWNER=(I).')
```

# OWNER and SELECT option example

DUMP OF SYSTEM STORAGE FOLLOWS

LIMITED BY SELECT OPTION ISWBUSE

BLOCKS FILTERED BY OWNER NAME BEGINNING WITH I

OWNERS OF BLOCK SWB            ---> This includes all of the owners, even those not included by OWNER option

IECB	0000035
ISYSTEM	0000012
IDSCB	0000007
IEVENT	0000005

\*SYSTEM WORK BLOCK

\*BLOCK IN USE            , OWNER=IECB

0000000013403400	00001F40	00000002	00005304	00000000	...
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# OWNER option example

OWNER NAME is included in blocks that are not in use when dumping all of the blocks.

EXTENDED SYSTEM WORK BLOCK

\*BLOCK IN USE , OWNER=ISCRT

000000096F4E3000	00057E40	00000001	002D4A98	00000000	... ..
000000096F4E3010	00000000	00000000	00000000	00000000	.....
000000096F4E3FF0	00000000	00000000	00000000	00000000	.....

\*EXTENDED SYSTEM WORK BLOCK

\*BLOCK NOT IN USE , OWNER=ITCPIP CMVP

000000096F4E4000	FF270000	C3D4E5D6	00000000	00000000	....CMVO..
000000096F4E4010	01000000	00000000	00000000	00000000	.....
000000096F4E4020	00000000	00000000	00000000	00000000	

# 000001 (CTL-1) thru 000004 (OPR-4) dump console changes

- Breaking event address register added to the console for CTL 1 – OPR-4 dumps
- Breaking event address register gives the last successful branch before the program check
- Can speed up solving CTL 1 – OPR-4 dumps without requiring the post processing of the dump

# Console with breaking event address register

```
CPSE0160E 10.12.10 IS-0001 SS-BSS SSU-HPN SE-001193 CTL-I000003
010000B TRC-QTA7 OWNER-drvrDUMPfirmCVZZ-ECBAdr:1527E000.
QTA7 OBJ-qta7 000003BA LOADSET-BASE
PSW 07150000 80000000 00000000 0D51B3BC PIC 0001 ILC 0002 I-0000
R0-2 00000000 00000D98 00000000 0D51B7CC 00000000 152B8E80
R3-5 00000000 00000000 00000000 1F635000 00000000 00000064
R6-8 00000000 15200390 00000000 0540A000 00000000 0D51B078
R9-11 00000000 15200000 00000000 00026D58 00000000 00001000
R12-14 00000000 00002000 00000000 0D51B79C 00000000 00027CBE
R15 00000000 00000000 -
BREAKING EVENT REGISTER --- 00000000 0D51B19C +
```



# Migration considerations

- Must apply the offline code before applying the online code (can be done at the same time)
- SELECT will work with dumps on earlier systems before PJ47200 is installed
  - With the following restrictions
    - Overrides created using ZIDOT command
    - Overrides that use the dump format extension
      - ILOADERS,IMQDEFS,IWODM,IFTPC and so on
    - ISVMDAT, IEHEAPC

# Value Statement

Use of the new SELECT and OWNER options allows coverage and system programmers faster access to areas of memory in dumps. The time required to do problem determination on large dumps can be reduced significantly

# Conclusion

This apar PJ47200 is available in February 2024  
Current JCL will still work with the post processor.

# Thank you

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