

z/OS V1R13

BCP service aids: IPCS subcommand DOCPU

Overview

- Added a new IPCS subcommand DOCPU
- To issue a IPCS subcommand for each of the CPUs specified
- Allows CPU related diagnostic data can be obtained from a SADMP with only one command rather than repeating the command for each CPU
- Only works for SADMPs
- **Problem Statement / Need Addressed:**
 - z/OS support of LPARS that have more CPUs has increased the size of dumps and traces
 - Greater complexity has been added to the problem determination process as much larger volumes of diagnostic data needs to be analyzed
- **Solution:**
 - Provided new IPCS subcommand DOCPU
- **Benefits:**
 - One command can produce output for all of requested CPUs
 - Minimize the work required to get the same data for many CPUs

Usage and invocation

Command Syntax:

```
{ DOCPU }  
    [ ( CPU ( cpu-address-range-list ) ) |  
      CPUTYPE ((ZAAP|ZA) | (ZIIP|ZI) | (STANDARD | CP | S) ) |  
      CPUMASK ( cpumask ) ]  
    EXEC ((ipcs-subcommand))
```

- **CPU(cpu-address-range-list)**
 - Specifies CPU(s) which are selected for the execution of the specified IPCS subcommand
 - Cpu-address-range-list is a CPU number or a range of numbers or a combination of both
 - CPU number can be decimal or in hex (X'..')
 - Colon may be used to indicate a range of CPUs
 - Space or comma may be used as delimiter
 - Examples:
 - CPU(0)
 - CPU(5:10)
 - CPU(0 5:10)
 - CPU(0,3,5:10)
 - CPU(X'A')
- **CPUMASK(CPU hexadecimal mask)**
 - Specifies CPUs in a string of hexadecimal characters
 - Each hexadecimal character identifies 4 CPUs
 - The maximum number of CPUs supported by z/OS defines the maximum length of this hexadecimal string
 - The maximum number of CPUs supported by z/OS at V1R13 is 128 so the maximum length of this hexadecimal mask is 32
 - The leftmost bit designates the lower CPU address starting from zero
 - Example: CPUMASK(34F) means CPUs 2,3,5,8,9,10,11
- **CPUTYPE((ZAAP|ZA) | (ZIIP|ZI) | (STANDARD|CP|S))**
 - ZAAP or ZA will select all ZAAP processors in the configuration
 - ZIIP or ZI will select all ZIIP processors in the configuration
 - STANDARD or CP or S will select all standard processors in the configuration
 - The ZAAP, ZIIP, and STANDARD options may be combined in any order to select a combination of CPU types. For example, CPUTYPE(ZAAP STANDARD).
 - Spaces or commas may be used as delimiters
 - CPU, CPUMASK, and CPUTYPE can be combined as a union of sets
 - If all of CPU, CPUTYPE, and CPUMASK keywords are omitted, all processors will be included as default
- **EXEC(ipcs subcommand)**
 - Executes the specified IPCS subcommand for each CPU specified by appending CPU(X'..') to the IPCS subcommand
 - Examples:
 - To display 4 bytes of storage at 414 for CPU 0 and CPU 1:
 - » DOCPU CPU(0,1) EXEC((L 414 LEN(4)))
 - » **CPU(X'00')**:

```
LIST 0414.CPU(X'00') ASID(X'0001') LENGTH(X'04') AREA  
00000.04454000 CPU(X'01'):
```
 - » **CPU(X'01')**:

```
LIST 0414.CPU(X'01') ASID(X'0001') LENGTH(X'04') AREA  
00000414.027EF000
```

Interactions and dependencies

- Software Dependencies
 - None
- Hardware Dependencies
 - The Encryption function provided by the CPACF, DES/TDES Enablement is available on processors starting with the z990 (2084) and z890 (2086)

Migration and coexistence considerations

- None

Installation

- Must properly configure z/OS Communications Server to use the FTP client program. See the topic on Transferring files using FTP in z/OS Communications Server: IP Configuration Guide.
- AMAPDUPL resides in SYS1.MIGLIB (which is a data set in the LNKLST concatenation), so a STEPLIB DDNAME is not necessary to invoke AMAPDUPL (compared to the earlier MTFTPS tool)
- Find complete description of the AMA messages in z/OS MVS System Messages, Vol 1 (ABA-AOM)

Session summary

- IPCS new subcommand DOCPU
 - Executes a IPCS subcommand for each of the CPUs specified

Appendix – References

- SA22-7594 z/OS MVS IPCS Commands