

IBM Education Assistance for z/OS V2R1

Item: RAS Usability

Element/Component: DFSMSHsm



Agenda

- Trademarks
- Presentation Objectives
- Overview
- Usage & Invocation
- Presentation Summary
- Appendix



Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.



Presentation Objectives

- Overview of the new RAS / Usability improvements
- Describe how the new RAS and Usability items effect DFSMSHsm
- Explain how to invoke the new functions
- Describe the various options that are available and installation



RAS Usability Overview

- Problem Statement / Need Addressed
 - We must continually improve reliability, availability and serviceability
- Solution
 - DFSMSHsm will no longer capture UCBs into below the line storage
 - DFSMSHsm can automatically generate a new Recycle command for the same original tape, when the original Recycle must terminate due to the takeaway process or when the input tape is in use by another DFSMSHsm task.
 - When an error occurs on an alternate tape, an option is available to generate a RECYCLE command instead of TAPECOPY command to create a new original and alternate tape.
 - In addition to displaying the TCB address for data movement tasks, the tape volser, device address and task name are displayed for QUERY ACTIVE(TCBADDRESS) command.
 - The DFSMSHsm ARC0936I message will now contain additional diagnostic information.



RAS Usability Overview (cont)

- The ARCHRCAL macro allows customer to recall a migrated data set. The syntax of the ARCHRCAL macro will be changed to use a different TCB.
- SMSVSAM Server Termination Handling
 - When an SMSVSAM server error occurs, DFSMSHsm detects the error, and quiesces all CDS I/O activity. Once the SMSVSAM server initializes, DFSMSHsm automatically closes and reopens the CDSs and resumes all requests waiting on CDS I/O operations.



RAS Usability Overview (cont)

▪ What is the benefit from these solutions?

★ UCB capture:

- DFSMSHsm's large customers face periodic 878-Abends in the DFSMSHsm address space. DFSMSHsm has increased the available storage below-the-line by not capturing UCBs below-the-line.

★ Use Recycle instead of Tape Copy for failed alternate tape:

- Today, when an alternate tape of a duplex copy pair fails to be created, DFSMSHsm generates an automatic request to create a tape copy of the original. A new SETSYS option is being added to the Duplex Tape function that will affect processing when an error occurs on the alternate tape. The new option CONTINUE will create a new duplex pair of tapes via the Recycle command after the original finishes.



RAS Usability Overview (cont)

★ Automatic Recycle Retry

- A new SETSYS command is provided to automatically redrive the Recycle command after a tape take-away

★ QUERY ACTIVE(TCBADDRESS):

- This will assist customers with correctly identifying which TCB should be cancelled. Customers often know which tape drive that is in error, but do not know how to relate that to a particular DFSMSHsm TCB.

★ Update ARCHRCAL to use different TCB:

- A new TCBTOKEN=CURRENT parameter will be added to the syntax of the ARCHRCAL macro. This parameter is provided to support changes in BCP for batch job recall processing.



RAS Usability Overview (cont)

★ Enhance **ARC0936I** with catalog return/reason code:

- When FAST VVDS ACCESS interface returns RC12, REAS98, DFSMSHsm will use the information in FVVPPROB field to put it into SUBREAS field of the ARC0936I message.

★ **SMSVSAM Server Termination Handling:**

- This support will greatly improve the usability and robustness of DFSMSHsm in regards to its response to SMSVSAM server errors. When an SMSVSAM server error occurs, DFSMSHsm will detect the error and quiesce all CDS I/O activity. Once the SMSVSAM server initializes, DFSMSHsm will automatically close and reopen the CDSes and resume all requests waiting on CDS I/O operations.



RAS Usability Invocation

A new option is being added to the Duplex Tape function that will affect processing when an error occurs on the alternate tape:

```
SETSYS DUPLEX ( BACKUP ( Y ERRORALTERNATE(CONTINUE(TAPECOPY|  
RECYCLE)) | N ) MIGRATION( Y ERRORALTERNATE(CONTINUE(TAPECOPY|  
RECYCLE)) | MARKFULL ) | N ))
```

- CONTINUE(RECYCLE) is an optional sub-parameter: when an error occurs on the duplex alternate tape, the alternate tape will be demounted and discarded, DFSMSHsm will continue to write to the original tape. When DFSMSHsm has completed writing the original tape, a TCN record for Recycle is created and written to OCDS. DFSMSHsm will start RECYCLE of the original tape to create a new duplex pair of tapes



RAS Usability Invocation (cont)

Automatically Recycle retry can be managed by the new command:

**SETSYS RECYCLETAKEAWAYRETRY(YES MAXRETRYATTEMPTS(nn)
DELAY(mmmm) | NO)**

- RECYCLETAKEAWAYRETRY is an optional parameter used to generate a new Recycle command for the same original tape when the original Recycle must terminate due to the takeaway process or when the input tape is in use by the other DFSMSHsm task.
 - MAXRETRYATTEMPTS(nn) sets the maximum number of recycle retry attempts
 - DELAY(mmmm) sets the delay in seconds between recycle attempts

Range and defaults:

nn The value can be 1 – 99. The default value is 12.

mmmm The value can be 1 – 9999 The default value is 300.



Appendix

▪ Publications for z/OS V2R1.0

- *DFSMS Using New Functions* (SC23-6857-0)
- *DFSMSHsm Storage Administration* (SC23-6871-0)
- *MVS System Messages* (SA38-0668-0 to SA38-0677-0)

