DFSMS Basics: How to Write ACS Routines Part 2 - Hands-on Lab (Section 1)

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Aug 11, 2011
Session Number 9231
Introduction to ACS Environment

- What is an ACS Routine?
  - User written code to affect an allocation
  - Used to determine SMS classes and storage groups
  - Used for both data sets and objects
  - Can override specifications of SMS classes and groups on:
    - JCL DD statements
    - Dynamic allocation requests
    - DFSMSdssCOPY, RESTORE & CONVERT
    - DFSMShsm RECALL & RECOVER
    - IDCAMS DEFINE, ALTER & IMPORT
    - OAM STORE, CHANGE & class transition
Introduction to ACS Environment (cont)

• 4 ACS Routines
  • Data Class
  • Storage Class
  • Management Class
  • Storage Group
    • Run in this order
    • Provides the default allocation values
• Set the Class or Group for a given allocation
• The ACS routine can over-ride specified values
Introduction to ACS Environment (cont)

- What is a Data Class?
  - RECORG or RECFM
  - LRECL
  - Space
  - DSNTYPE
  - Volume count
  - VSAM attributes
  - RETPD or EXPDT
  - Compaction
Introduction to ACS Environment (cont)

- What is a Storage Class?
  - This IS the attribute that makes a data set SMS managed
  - Performance attributes
    - Direct & sequential millisecond response
    - Direct & sequential bias
    - Initial access response time
- Availability
- Accessibility
- Guaranteed space
- Guaranteed synchronous write
Introduction to ACS Environment (cont)

- What is a Management Class?
  - Space management attributes
    - Expiration & retention attributes
    - Migration attributes
    - GDG management attributes
  - Backup attributes
    - Backup frequency
    - Backup versions
    - Backup retention
  - Class transition attributes
  - Aggregate backup attributes
Introduction to ACS Environment (cont)

• What is a Storage Group?
  • Physical storage managed by SMS
    • Collection of DASD volumes
    • Volumes in tape libraries
    • Volumes in optical libraries
    • Virtual I/O storage
  • Can be enabled, quiesced, quiesced new, disabled or disabled new
  • Can be set to auto migrate, auto backup and/or auto dump
Introduction to ACS Environment (cont)

- ACS General Rules
  - Keep them simple and straightforward
    - Minimize exceptions
    - Maximize FILTLIST usage
  - Keep them easy to maintain and understand
    - Use SELECT instead of IF when possible
    - EXIT the routine as soon as possible
    - Use OTHERWISE whenever possible
    - Comments, comments, comments
Introduction to ACS Environment (cont)

- ACS Language Statements
  - PROC - beginning of routine
  - FILTLIST – defines filter criteria
  - DO – start of statement group
  - SELECT – defines a set of conditional statements
  - IF – conditional statement
  - SET – assigns a read/write variable
  - WRITE – sends message to end user
  - EXIT – immediately terminates ACS routine
  - END – end of statement group
- More info can be found in the pub hand-out
Introduction to ACS Environment (cont)

- ACS Read Only Variables
  - Majority of the ACS variables
  - Contain data and system information
  - Reflect what is known at the time of the request
  - Can only be used for comparison
- More info can be found in the pub handouts
Introduction to ACS Environment (cont)

• ACS Read/Write Variables
  • Used as values in comparisons (READ)
  • Used to assign values (WRITE)
  • 4 Read/Write variables
    • &DATAACLAS
    • &STORCLAS
    • &MGMTCLAS
    • &STORGRP
  • The ACS PROC statement must identify which R/W variable it is setting
  • More info can be found in the pub handouts
Introduction to ACS Environment (cont)

- Translating and Validating the ACS Routines
  - Translating ACS Routines
    - Done via ISMF
    - Checks for syntax errors
    - Converts ACS routine into object code and stores it into the SCDS
  - Validating the SMS Configuration
    - Also done through ISMF
    - Verifies that all classes/groups assigned in the ACS routines exist