

S H A R E

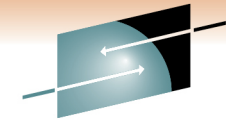
Technology • Connections • Results

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

Steve Huber
IBM Corporation

March 3, 2011
9014

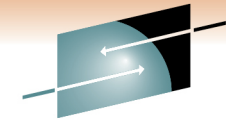




S H A R E
Technology • Connections • Results

Introduction to ACS Environment

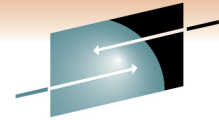
- **What is an ACS Routine?**
 - **User written code to affect an allocation**
 - **Used to determine SMS classes and storage groups**
 - **Used for both data sets and objects**
 - **Can override specifications of SMS classes and groups on:**
 - **JCL DD statements**
 - **Dynamic allocation requests**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



S H A R E
Technology • Connections • Results

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



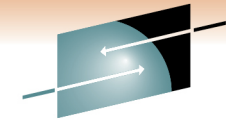
SHARE
Technology • Connections • Results

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**



SHARE
Technology • Connections • Results

Introduction to ACS Environment (cont)

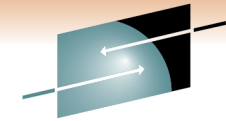
- What is a Management Class?
 - **Space management attributes**
 - Expiration & retention attributes
 - Migration attributes
 - GDG management attributes
 - **Backup attributes**
 - Backup frequency
 - Backup versions
 - Backup retention
 - **Class transition attributes**
 - **Aggregate backup attributes**

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**



SHARE
Technology • Connections • Results

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
 - &DATACLAS
 - &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