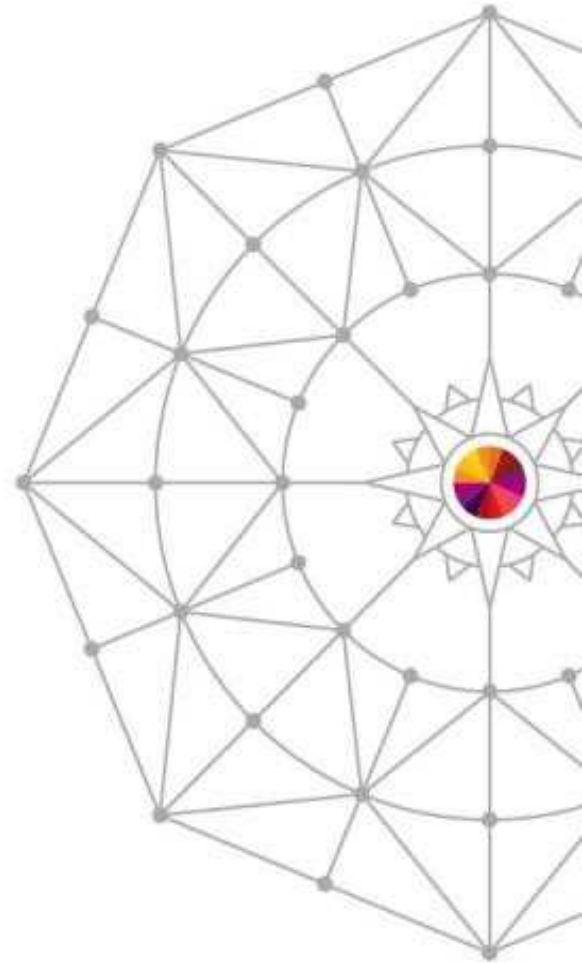


DFSMS Basics: How to Write ACS Routines

Workbook

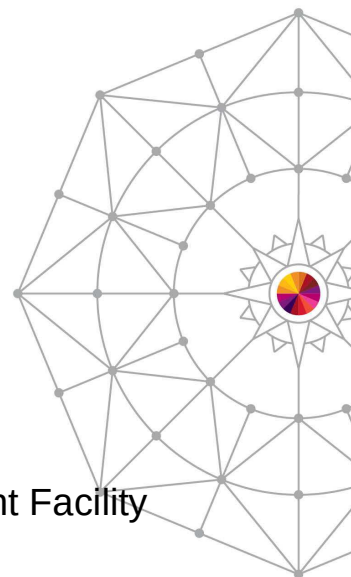
Neal Bohling
Tom Reed
IBM

March 12, 2014
Session 15097



Resources

- **Lab TSO USERIDs**
 - SHARA01 thru SHARA20 w/ password (firstpw)
- **Lab Data Sets**
 - SHARAx.x.S15097.ACS
 - SHARAx.x.S15097.SMS.SCDS
- **Publications**
 - DFSMS Storage Administration Reference
 - Link: <https://ibm.biz/BdRmgJ>
 - DFSMS Implementing System-Managed Storage
 - DFSMS Using the Interactive Storage Management Facility



2

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Lab Basics

- **SHARAx.x.S15097.ACS**
 - Members for your lab use
 - DCLAB
 - SCLAB
 - MCLAB
 - SGLAB
 - Contains the ACS routines for a minimal configuration
 - SCMIN and SGMIN
 - Contains some example routines
 - DCEXAMPL, SCEXAMPL, MCEXAMPL and SGEXAMPL
 - Example solutions
 - DCANSWER, SCANSWER, MCANSWER and SGANSWER
 - ACS Routine stubs
 - STUB
- **SHARAx.x.S15097.SMS.SCDS**
 - SMS Configuration to code ACS against

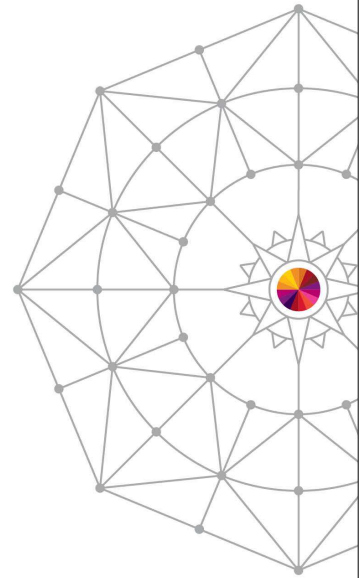


3

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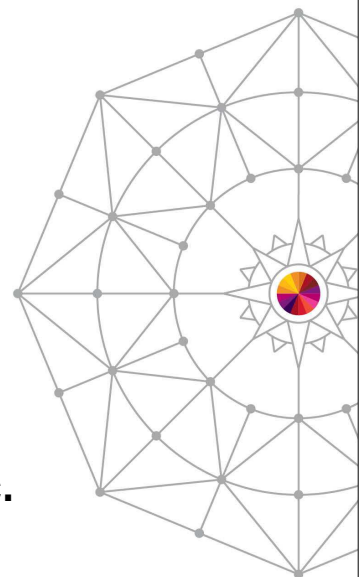
Lab Configuration

- **Available SCDS:**
 - SHARAx.x.S15097.SMS.SCDS
- **Available DATACLAS(s)**
 - Default, Extended, HFS, PDSE, VEAEXTND
- **Available STORCLAS(s)**
 - Default, Extended, GSPACE
- **Available MGMTCLAS(s)**
 - RLSEIMM
- **Available STORGRP(s)**
 - Default, Extended



Lab Pre-stuff

- Set yourself up as a Storage Administrator
 - ISMF
 - 0 - Profile Options
 - 0 - User Mode Selections
 - 2 - Storage Administrator
 - End/Exit 3 times
- **NOTE: This is an exercise in syntax, not logic.**



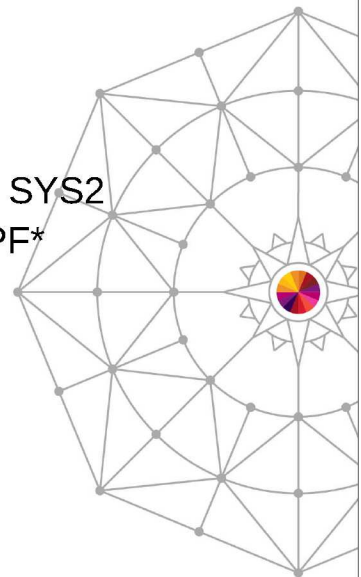
Lab 1

- **Create the 'stubs' for each Class and Group**
- Create the basic entries for each of DC, SC, MC, and SG routines
 - Put them in data set SHARAxX.S15097.ACS as members:
 - DCLAB
 - SCLAB
 - MCLAB
 - SGLAB
 - The 'stubs' can be found in SHARAxX.S15097.ACS(STUB)
- Translate the ACS routines via ISMF 7 / 2 to your configuration (SCDS) data set (SHARAxX.S15097.SMS.SCDS)



Lab 2

- **Create the Filter Lists**
 - Use the SC ACS routine created in Lab 1
 - Modify the routine such that it contains FILTLISTS
 - Create a filter of SYSTEM for HLQ of SYS1 and SYS2
 - Create a filter for SPF for 2nd level qualifier of SPF*
- Translate the ACS routine



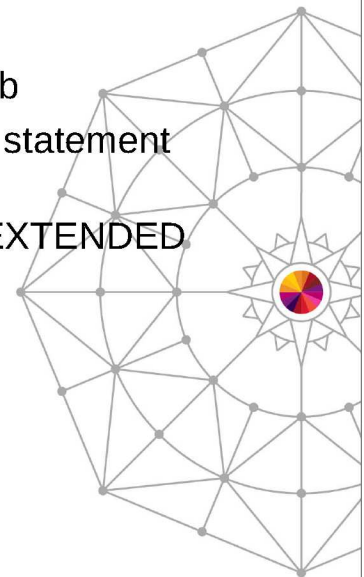
Lab 3

- **Add some If/Then Logic**
 - Use the SC ACS routine created in the previous lab
 - Modify the routine such that it contains IF/THEN logic
 - Compare the HLQ to the SYSTEM filter and set a null ("") SC
 - Compare the second-level qualifier to the SPF filter and if it matches, set a Storage Class of Default
- Translate the ACS routine



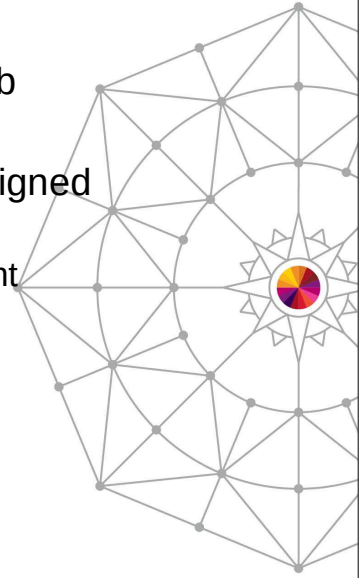
Lab 4

- **SELECT Logic**
 - Use the SC ACS routine created in the previous lab
 - Modify the routine such that it contains a SELECT statement
 - SELECT on Read/Write variable &DATACLAS
 - When incoming DC is VEAEXTND set the SC to EXTENDED.
- Translate the ACS routine



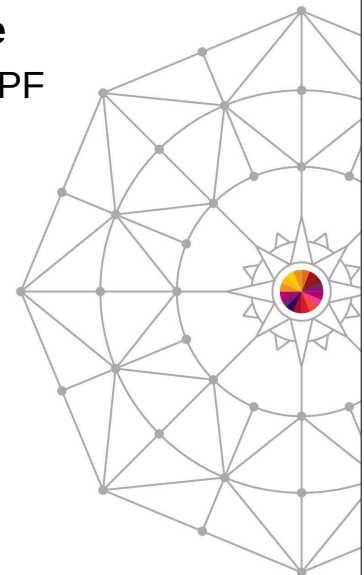
Lab 5

- **WRITE Statement**
 - Use the SC ACS routine created in the previous lab
 - Modify the routine such that it contains a WRITE statement(s) to indicate which storage class is assigned
 - Syntax: WRITE 'message'
 - Try to make sure every exit point has a write statement
 - Translate the ACS routine



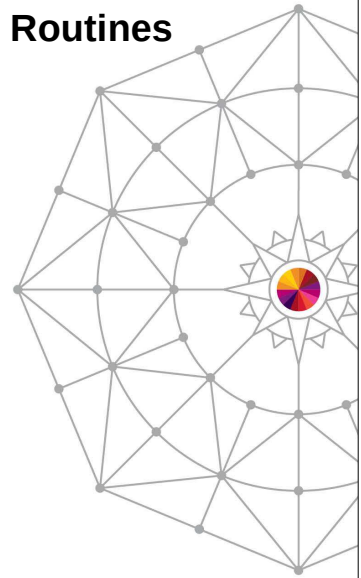
Lab 6

- **Create another filter list for SPF in the SG Routine**
 - Based on the second-level qualifier starting with SPF
 - Set a Storage Group of Default
- **Translate the ACS routine**



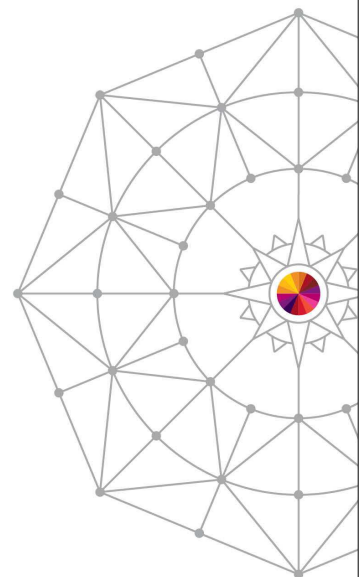
Lab 7

- **Create another filter list for SPF in the DC and MC Routines**
 - Based on the 2nd level qualifier starting with SPF:
 - Set Data Class of Default
 - Management Class of RLSEIMM.
- **Translate the ACS routines**



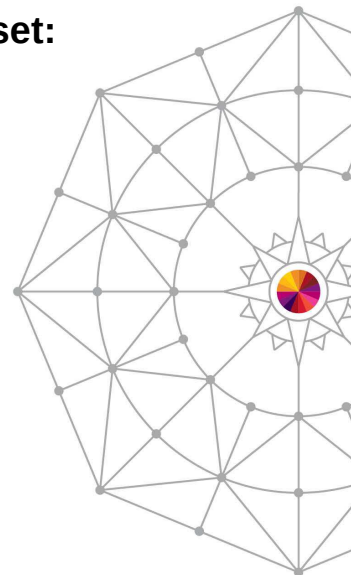
Lab 8

- **Use SELECT Logic**
 - When the DSNTYPE is LIBRARY:
 - Set a Data Class of PDSE
 - Set a Storage Class of Default, and
 - Set a Storage Group of Default
 - When the DSNTYPE is PDS:
 - Set a Data Class of Default
 - Set a Storage Class of Default
 - Set a Storage Group of Default
- **Translate the ACS routines**



Lab 9

- **Based on MAXSIZE of 100MB and DSORG of VS, set:**
 - Data Class of 'VEAEXTND',
 - Storage Class of 'Extended'
 - Storage Group of 'Extended'
- HINT: The SC aspect of this assignment is already complete.
- **Translate the ACS routines**

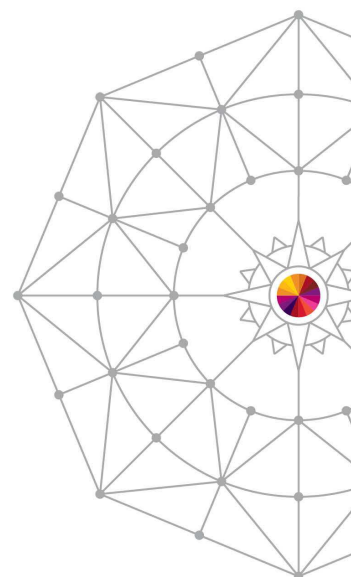


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Lab Assignment (cont)

- **Validate** the configuration
 - ISMF 7.3
 - Use your configuration (SCDS)
(SHARAx.S15097.SMS.SCDS)

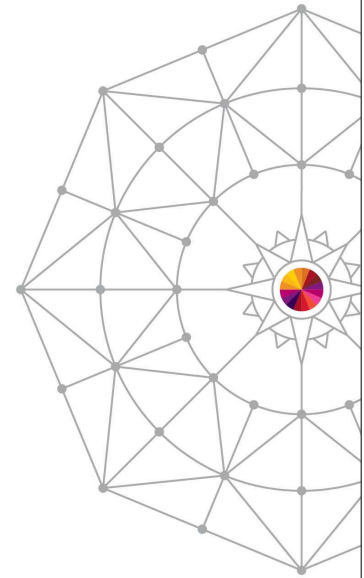


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Lab 10 – Test Your Routines

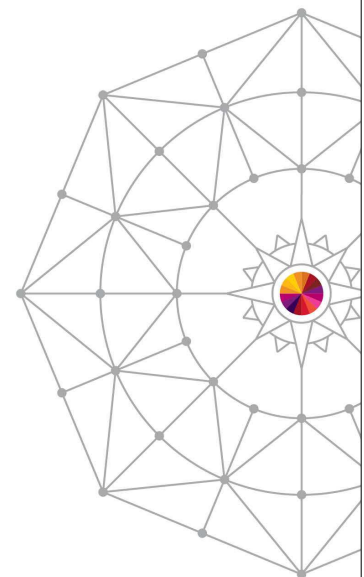
- Use ISMF 7.4 to test your routines
 - Option 1 for DEFINE new test
- Build a test case with the following rules:
 - Expected result: NULL
 - Description: Test1
 - DSN: SYS1.ANYTHING.ANYTHING
- Store it in SHARAx.x.S15097.ACS(TEST1)



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Lab 10 – Test Your Routines

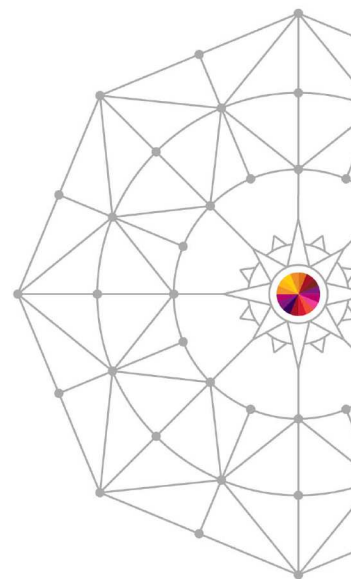
- Build another test case, TEST2, with rules:
 - Expected result: EXTENDED
 - Description: Extended Test
 - DSN: MY.EXT.DATASET
 - DSORG: VS
 - Size: 50000 (in KB)
 - Space_Type: K
 - Second_Qty: 50000
- Store it in SHARAx.x.S15097.ACS(TEST2)



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Lab 10 – Test Your Routines

- Run both tests (option 3)
 - CDS: SHARAx.x.S15097.SCDS
 - ACS Test Library: SHARAx.x.S15097.ACS
 - Select all routines
- What results do you get from each test?
- Do they match expectations?



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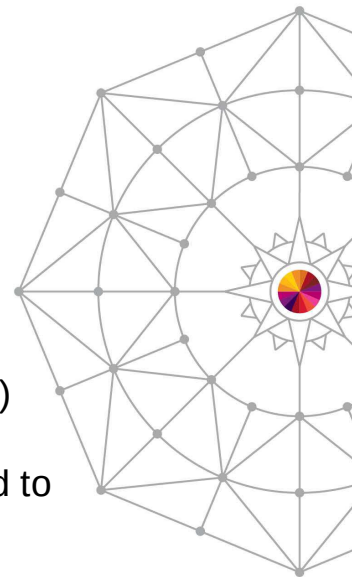
Summary

- **Upon completion of this session, you should...**
 - Have a better understanding of the ACS environment
 - Be able to write a basic ACS routine
 - Understand how to Translate and Validate an ACS routine
 - Understand how to determine what Translate and/or Validate errors occurred
 - Be familiar with much of the ACS syntax
 - Be able to test your ACS routines



Advanced Lab 11

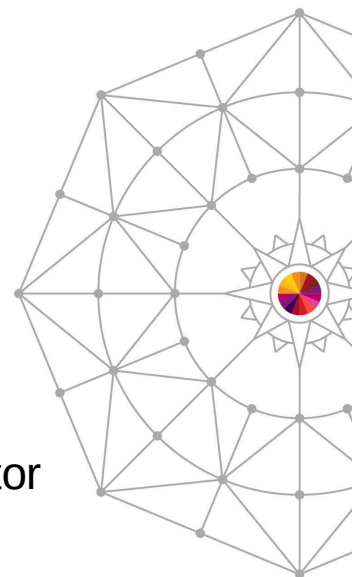
- Create new DCA, SCA, MCA, SGA members in SHARAx.S15097.ACS
- Implement the following rules:
 - PDS and LIBRARY data sets are assigned to:
 - DC: PDSE, SC: Default, MC: none, SG: Default
 - Data sets over 100MB are assigned to:
 - DC: Extended, SC: Extended, MGMTCLAS: RLSIMM, SG: Extended
 - Data sets with HLQ of SYSTEM are assigned null (“) for all routines
 - Data sets with second qualifier as “GS” are assigned to
 - SC: GSPACE
- Translate/validate/test your routines!



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For Additional Experimentation

- Create your own routines!
 - Available structures are on page 4 of the lab
- Create your own structures!
 - Just be sure to use SCDS of SHARAx.S15097.SMS.SCDS
- Try using the ACS Routine Testcase Generator
 - ISMF Option 11.1



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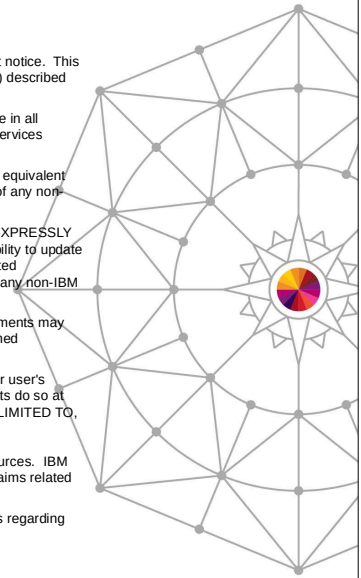
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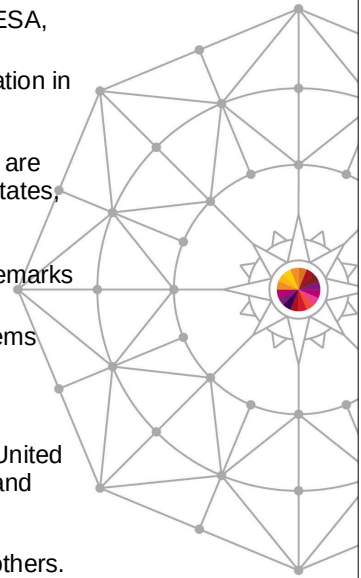
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