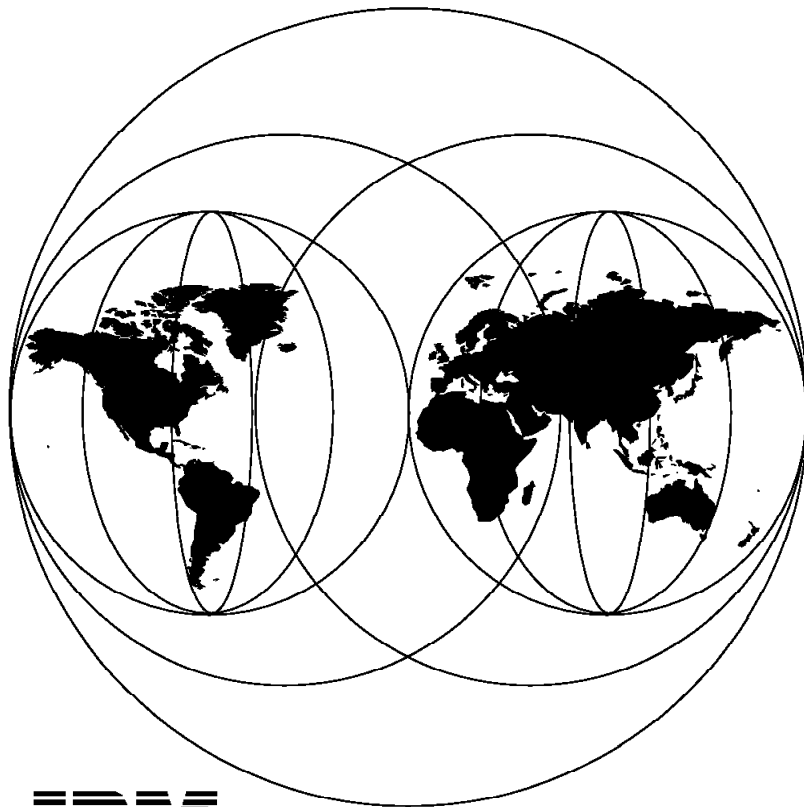


**DFSMS FIT:
Fast Implementation Techniques Installation Examples**

October 1995



**International Technical Support Organization
San Jose Center**



International Technical Support Organization

SG24-2569-00

**DFSMS FIT:
Fast Implementation Techniques Installation Examples**

October 1995

Take Note!

Before using this information and the product it supports, be sure to read the general information under "Special Notices" on page vii.

First Edition (October 1995)

This edition applies to Version 1, Release Number 2 of DFSMS/MVS*, Program Number 5695-DF1 for use with the MVS/ESA Operating System.

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Abstract

This document provides sample output for nine installations that used the DFSMS* FIT process to implement DFSMS. The general environment of each installation is described, and the output produced from each of the key DFSMS FIT steps is included.

The DFSMS FIT process produces a simple and good DFSMS implementation within a two- to three-week period. The process is repeatable and has proven successful at many installations. The process is introduced in *Get DFSMS FIT: Fast Implementation Techniques*, SG24-2568. The detailed process is documented in the *DFSMS FIT: Fast Implementation Techniques Process Guide*, SG24-4478.

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Special Notices

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The information in this publication is not intended as the specification of any programming interfaces that are provided by DFSMS/MVS. See the PUBLICATIONS section of the IBM Programming Announcement for DFSMS/MVS for more information about what publications are considered to be product documentation.

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How This Document Is Organized

The document is organized as follows:

- Chapter 1, “Sample Installation Descriptions” provides a brief overview of the environment of each of the nine sample installations discussed in this book.
- Chapter 2, “Sample Data Classification” documents the output from the DFSMS FIT data classification step for each of the nine sample installations.
- Chapter 3, “Sample Storage Class Design” documents the output from the DFSMS FIT storage class design step for each of the nine sample installations.
- Chapter 4, “Sample Storage Group Design” documents the output from the DFSMS FIT storage group design step for each of the nine sample installations.
- Chapter 5, “Sample Storage Class ACS Coding” documents the output from the DFSMS FIT storage class ACS coding step for each of the nine sample installations.
- Chapter 6, “Sample Storage Group ACS Coding” documents the output from the DFSMS FIT storage group ACS coding step for each of the nine sample installations.
- Chapter 7, “Sample Management Class Design” documents the output from the DFSMS FIT management class design step for each of the nine sample installations.
- Chapter 8, “Sample Management Class ACS Coding” documents the output from the DFSMS FIT management class ACS coding step for each of the nine sample installations.
- Chapter 9, “Sample Phased Implementation” documents the output from the DFSMS FIT phased implementation design step for each of the nine sample installations.

Related Publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

- *DFSMS/MVS Version 1 Release 2 DFSMSdfp* Storage Administration Reference*, SC26-4920
- *MVS/ESA Storage Management Library Implementing System-Managed Storage*, SC26-3123

International Technical Support Organization Publications

- *DFSMS FIT: Fast Implementation Techniques Process Guide*, SG24-4478 (available at a later date)
- *DFSMS FIT: Fast Implementation Techniques Forms and Foils*, SG24-2570 (available at a later date)
- *Get DFSMS FIT: Fast Implementation Techniques*, SG24-2568 (available at a later date)
- *DFSMS Implementation Primer Series: Writing ACS Routines*, GG24-3403

A complete list of International Technical Support Organization publications, with a brief description of each, may be found in:

Bibliography of International Technical Support Organization Technical Bulletins, GG24-3070.

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Acknowledgments

This project was designed and managed by:

Dale Freeman
International Technical Support Organization, San Jose Center

The author of this document is:

Dale Freeman
IBM International Technical Support Organization, San Jose

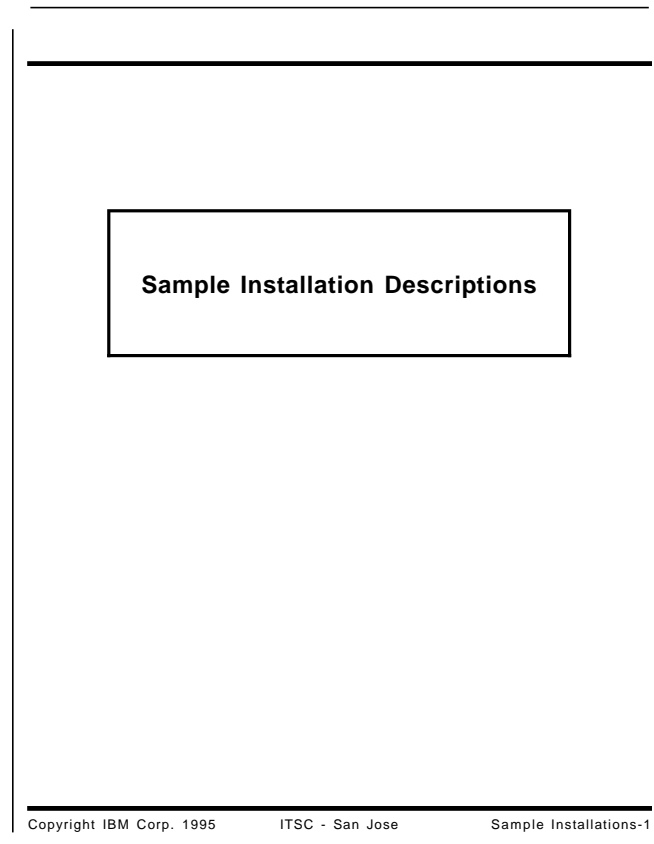
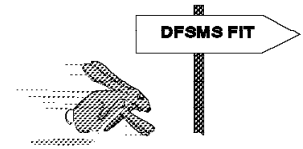
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International Technical Support Organization, San Jose Center

October 1995

Chapter 1. Sample Installation Descriptions



This chapter provides a brief description of each of the nine sample installations that used the DFSMS FIT process to implement DFSMS. The descriptions of these installations and their implementation examples have been changed slightly to remove proprietary and identifying information.

These sample implementations occurred during the development of the DFSMS FIT process. Thus, some of the samples differ in format from the final DFSMS FIT formats, but they are similar enough to the final DFSMS FIT formats to serve as useful reference examples.

Text is not provided in this or any of the other chapters. This document is meant to be used with the *DFSMS FIT: Fast Implementation Techniques Process Guide*.

For an explanation of the contents of this chapter refer to *Getting DFSMS FIT*, Chapter 3 and Appendix C.

The following steps of the DFSMS FIT process are not included in this document:

- Data class design
- Data class ACS coding
- Testing
- Staged data conversion.

Data class design and ACS coding are not included because all nine sample installations used only the starter set data classes requested through JCL as described in Chapter 10 of the *DFSMS FIT: Fast Implementation Techniques Process Guide*.

The other three steps are not included because they do not provide any substantial value for understanding the DFSMS FIT process.

1 - Small-Sized Government

- Single data center providing services to many government agencies
- Multiple MVS systems and 500 GB of DASD
- Non-IBM* storage management products in use
- Each agency owns its own data and volumes
- Highly political environment for data processing service decisions
- Very conservative DFSMS implementation plan
- Initial implementation phase was for temporary data sets only
- Plan to use DFSMS to significantly improve service and reduce costs

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1 - Small-Sized Government ...

- MVS images for DFSMS implementation
 - Software Test
 - Development
 - Batch and TSO production
 - CICS* and ADABAS production
 - Other batch production
- Storage software at DFSMS implementation
 - MVS/ESA* 3.1.3
 - DFP 3.1.1
 - DFDSS 2.4
 - DMS/OS 8.1
 - FDR 5.1
 - VAM 3.1B
 - STOPX37
 - ACF2 5.2.0
 - TMS 4.9
 - MIM 3.0

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1 - Small-Sized Government ...

- DASD at DFSMS implementation
 - 500 GB
 - 3380s and 3390s
 - 50% of volumes cached with 3990-3
 - All DASD physically and logically attached to all MVS images, except software test and development have volumes that only these images can access
- Pools at DFSMS implementation
 - Primary VSAM - controlled by VAM
 - Primary VSAM cache - UNIT=PRIMC
 - Primary non-VSAM - controlled by VAM
 - Primary non-VSAM cache - UNIT=PRIMC
 - Private system volumes - VOL=SER
 - Private database volumes - VOL=SER
 - Temporary - SYSDA or WORK
 - Short term - SYSDA (3-day pool)

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1 - Small-Sized Government ...

- Storage services at DFSMS implementation
 - Allocation controls to direct data to specific pools
 - Very limited migration of unused data
 - No release of overallocated space
 - No data deleted automatically
 - Volume dumped regularly for selected pools
 - Incremental backups for most pools
 - Volume caching for selected pools
- Goals for DFSMS implementation
 - Separate test and development from production
 - Data set level tailored services
 - Reduce storage ABENDs
 - Implement with as little disruption as possible
 - Easy conversion to new device types
 - Maximize storage efficiency with minimal overhead
 - Prepare for fault-tolerant DASD arrays
 - Improve tape cartridge utilization efficiency
 - Combine VSAM and non-VSAM pools
 - Minimize or eliminate use of VAM pooling software
 - More aggressive migration of data
 - Leave system and ADABAS data as nonmanaged

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2 - Small-Sized Bank

- Single data center supporting banking applications for an environment of less than 100 bank branch offices
- Multiple MVS systems and 170 GB of DASD
- Limited automated storage management in place
- Non-IBM storage management products installed and in the process of converting to DFHSM
- Significant reliance on contract systems programmers
- Initial implementation phase was for nonproduction data
- Main interest in DFSMS for image processing support and data set level caching

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2 - Small-Sized Bank ...

- MVS images for DFSMS implementation
 - Technical Support
 - Development and Production
- Storage software at DFSMS implementation
 - MVS/ESA
 - DFP 3.1.1
 - RACF* 1.8.1
 - DFHSM 2.4 (not yet managing data)
 - DFDSS 2.4
 - FDR/ABR
 - MIM

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2 - Small-Sized Bank ...

- DASD at DFSMS implementation
 - 170 GB
 - Cache installed - About 60% of DASD capacity behind cache
 - All DASD physically attached to both MVS images
 - All DASD logically attached to both MVS images
- Pools at DFSMS implementation
 - Online VSAM - VOL=SER allocation
 - DB2* - VOL=SER allocation
 - Online IMS - VOL=SER allocation
 - Application test - VOL=SER allocation with volume ownership
 - Temporary and transient - SYSDA allocation
 - TSO - VOL=SER allocation
 - Batch production - VOL=SER allocation
 - Technical support - VOL=SER allocation
 - System - VOL=SER allocation
 - Libraries - VOL=SER allocation

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2 - Small-Sized Bank ...

- Storage services at DFSMS implementation
 - Allocation control by weekly batch job
 - Data migration of select pools
 - No release of overallocated space
 - Deletion control for limited pools
 - Volume dump of all volumes daily
 - Incremental backup for selected data only
 - Volume caching for selected pools
- Goals for DFSMS implementation
 - Position for image support
 - Ease migration to new device types
 - Support DASD growth without staff increase
 - Improve 3990 cache and DASD utilization
 - Position for automated tape support
 - Move private pools to managed pools
 - Automate storage management with HSM
 - Enforce standards

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3 - Small-Sized Utility

- Single data center providing application support for the entire utility
- Multiple MVS systems and 110 GB of DASD
- All IBM storage management products in use
- Staff with limited skills and experience
- Limited automated storage management in place
- Initial implementation phase was for workstation data and all other nonproduction data sets
- Plan to use DFSMS to help improve staff productivity and control workstation data

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3 - Small-Sized Utility ...

- MVS images for DFSMS implementation
 - Systems programming test
 - Production
- Storage software at DFSMS implementation
 - MVS/ESA 4.2
 - DFP 3.3 at 9104
 - ACF2 5.2 at 9108
 - DFHSM 2.6
 - DFDSS 2.5
 - TLMS 5.3
 - ICFRU
- DASD at DFSMS implementation
 - DASD capacity - 108 GB
 - Cached controllers - 3990
 - 50% of volumes cached
 - All DASD physically and logically attached to both MVS images

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3 - Small-Sized Utility ...

- Pools at DFSMS implementation
 - Temporary data
 - TSO and TCP/IP data
 - Production JCL and program libraries
 - Test JCL and program libraries
 - Production VSAM and sequential data
 - Test VSAM and sequential data
 - Production DBCOM data
 - Test DBCOM data
 - System data
- Storage software at DFSMS implementation
 - Allocation control to place data on specific volumes
 - Very limited data migration
 - No release of overallocated space
 - No deletion control
 - Weekly volume dumps
 - Very limited use of incremental backup
 - Limited volume caching

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3 - Small-Sized Utility ...

- Goals for DFSMS implementation
 - Support DASD growth without staff increases
 - Position for future technology
 - Support automated operations
 - Reduce storage-related costs
 - Avoid JCL changes
 - Consider pooling consolidations
 - Move to logical, rather than physical, backups
 - Reduce batch window time
 - Position technology to support backup of PC data
 - Isolation of PROD, PRODDb, WORK, and SYSTEM data

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4 - Large-Sized Transportation Company

- Large data center with two separate complexes supporting different business segments
- Many MVS systems and 750 GB of DASD
- Both IBM and non-IBM storage management products in use
- Different naming standards and storage services in each separate complex
- Strong technical management and systems programming staff
- Plan to use DFSMS to increase DASD utilization and integrate complexes

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Sample Installations-14

4 - Large-Sized Transportation Company ...

- MVS images for complex A
 - Test
 - Production
 - Online production
- MVS images for complex B
 - Production and test
 - Online production
- Storage software at DFSMS implementation
 - DFSMS/MVS
 - RACF
 - DFHSM
 - DFDSS
 - FDR/ABR
 - GRS
- DASD at DFSMS implementation
 - 750 GB
 - 3380s and 3390s
 - 3990-3 controllers
 - Most volumes cached
 - DASD physically and logically attached to all MVS systems

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Sample Installations-15

4 - Large-Sized Transportation Company ...

- Storage services at DFSMS implementation
 - Allocation controls by pools
 - Active data migration
 - No automated deletion
 - Weekly volume dumps
 - Incremental backups
 - Selected volume caching
- Goals for DFSMS implementation
 - Significant DASD savings
 - Merge system complexes
 - Use common storage products and provide common services
 - Improve tape operations

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Sample Installations-16

5 - Large-Sized Bank

- Independent data center for company with multiple, large data centers
- Multiple MVS systems and 800 GB of DASD
- All IBM storage management products in use
- Full HSM storage management in place
- Aggressive DFSMS implementation plan
- Plan to use DFSMS to increase DASD utilization and standardize automated storage services

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Sample Installations-17

5 - Large-Sized Bank ...

- MVS images for DFSMS implementation
 - System test
 - Production
 - Online production
- Storage software at DFSMS implementation
 - RACF
 - DFHSM
 - DFSS
- DASD at DFSMS implementation
 - 800 GB
 - 3380s and 3390s
 - 3990-3 storage controllers
 - All DASD logically attached to all MVS images

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Sample Installations-18

5 - Large-Sized Bank ...

- Storage services at DFSMS implementation
 - Allocation controls through pools
 - Active data migration
 - No automated deletion
 - Weekly volume dumps
 - Incremental backup for most data
 - Selected volume caching
- Goals for DFSMS implementation
 - Significantly reduce DASD
 - Tailor HSM services for users and data types
 - Support DASD growth without staff increase
 - Move private volumes to DFSMS
 - Provide more standards for users and enforce them

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Sample Installations-19

6 - Large-Sized Manufacturing Company

- One data center site of the company's multiple data centers
- This center was to be the pilot site for DFSMS implementation for all data center sites
- Planned reduction of system programming, operations, and storage support staff
- Multiple MVS systems and 450 GB of DASD
- All IBM storage management products in use
- More storage pools than was desirable
- Very aggressive DFSMS implementation plan
- Initial implementation phase was for all nonproduction data and batch production data sets and libraries
- Plan to use DFSMS to maintain services with reduced staff and lower costs

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6 - Large-Sized Manufacturing Company ...

- MVS images for DFSMS implementation
 - SYS 1 - Production system
 - SYS 6 - Application development
- Products at DFSMS implementation
 - MVS/ESA 4.1
 - DFP 3.2
 - RACF 1.9
 - DFHSM 2.5 (2.6 to be installed in December)
 - DFDSS 2.5
 - MIM
 - CA1

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6 - Large-Sized Manufacturing Company ...

- DASD at DFSMS implementation
 - DASD capacity - 450 GB
 - Device types - 3390 M3s
 - Cached controllers - 3990 M3
 - 100% of volumes cached
 - Separate RACF and HSM for the two MVS images
 - DASD physically but not logically attached to both MVS images
- Pools at DFSMS implementation
 - Batch pool - DATA
 - CPS pool - esoteric
 - DBM pool - VOL=SER
 - Large pool - esoteric
 - Library pool - VOL=SER
 - Scratch pool - SYSDA, DISK, SORT
 - System pool - VOL=SER
 - Test pool - TEST
 - TSO pool - TSO
 - VSAM pool - VOL=SER
 - Free pool - VOL=SER
 - Other data - VOL=SER

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6 - Large-Sized Manufacturing Company ...

- Storage services at DFSMS implementation
 - No allocation controls
 - Data migration for selected pools
 - No release of overallocated space
 - User deletion only
 - Volume dump for selected pools
 - Very limited incremental backup
 - Volume caching
- Goals for DFSMS implementation
 - Manage more DASD with less people
 - Increase DASD and tape utilization
 - Decrease tape mounts
 - Simplify JCL and enforce allocation and naming standards
 - Eliminate space ABENDS
 - Approach DFSMS management of all data
 - Data set level management of migration, caching, and backup
 - Reduce the number of pools
 - User determination of when to delete data
 - All data capable of being cached

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7 - Medium-Sized Petrochemical Company

- Remote data center for company with multiple, large data centers
- Multiple MVS systems and 170 GB of DASD
- All IBM storage management products in use
- Limited automated storage management in place
- Strong technical management and systems programming staff
- Strong cooperation between storage staff and database administrators
- Very aggressive DFSMS implementation plan
- Initial implementation phase was all nonsystem data
- Plan to use DFSMS to increase DASD utilization and expand automated storage services

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Sample Installations-24

7 - Medium-Sized Petrochemical Company ...

- MVS images for DFSMS implementation
 - System test - for system programming
 - Production - batch, TSO, development, HSM primary
 - Online production - IMS and CICS
- Storage software at DFSMS implementation
 - RACF 1.8.1
 - DFHSM 2.5
 - DFDSS 2.5
 - MSX
 - TMS - CA1
- DASD at DFSMS implementation
 - 170 GB
 - 3380 Ds, Es, and Ks
 - 5 x 3880-3, 2 x 3990-3, 1 x 3880-21
 - Limited cache installed
 - All DASD logically attached to all MVS images

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Sample Installations-25

7 - Medium-Sized Petrochemical Company ...

- Storage services at DFSMS implementation
 - No allocation controls
 - Very limited data migration
 - Partial release for selected pools
 - No automated deletion
 - Weekly volume dumps
 - Incremental backup for selected pools
 - Very limited volume caching
- Goals for DFSMS implementation
 - Increase DASD hardware efficiency
 - Tailor HSM services for users and data types
 - Support DASD growth without staff increase
 - Move private volumes to DFSMS
 - Make migration as transparent as possible to users
 - Use step-by-step migration approach
 - Provide more standards for users and enforce them
 - Increase the use of DFHSM

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Sample Installations-26

8 - Medium-Sized Retail Company

- Only data center for company
- Multiple MVS systems and 400 GB of DASD
- Major new application development and DASD growth
- New user of HSM
- Limited automated storage management in place
- Inexperienced technical staff
- Very aggressive DFSMS implementation plan
- Plan to use DFSMS to support new application and DASD growth

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Sample Installations-27

8 - Medium-Sized Retail Company ...

- MVS images for DFSMS implementation
 - Test
 - Production
- Storage software at DFSMS implementation
 - DFSMS/MVS
 - RACF
 - DFHSM
 - DFDSS
 - GRS
- DASD at DFSMS implementation
 - 400 GB
 - 3390s
 - 3990-3 storage controllers
 - All volumes cached
 - All DASD logically attached to all MVS images

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Sample Installations-28

8 - Medium-Sized Retail Company ...

- Storage services at DFSMS implementation
 - No allocation controls
 - No data migration
 - No automated deletion
 - Weekly volume dumps
 - Application backups
 - Selective volume caching
- Goals for DFSMS implementation
 - Provide standards for users and enforce them
 - Increase the use of DFHSM
 - Tailor HSM services for users and data types
 - Support DASD growth without staff increase
 - Make migration as transparent as possible to users

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Sample Installations-29

9 - Large-Sized Bank

- Independent data center for company with multiple, large data centers
- Multiple MVS systems and 1.200 TB of DASD
- IBM and non-IBM storage management products in use
- Automated storage management in place
- Limited technical staff because of rapid growth
- Plan to use DFSMS to standardize storage management products and services

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Sample Installations-30

9 - Large-Sized Bank ...

- MVS images for DFSMS implementation
 - Development and test
 - Online and batch production
- Storage software at DFSMS implementation
 - DFP 3
 - ACF2
 - DFHSM
 - FDR
 - DMS/OS
 - DFDSS
- DASD at DFSMS implementation
 - 1200 GB
 - 3380s and 3390s
 - 3880-3 and 3990-3 controllers
 - Limited cache installed
 - All DASD logically attached to all MVS images

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Sample Installations-31

9 - Large-Sized Bank ...

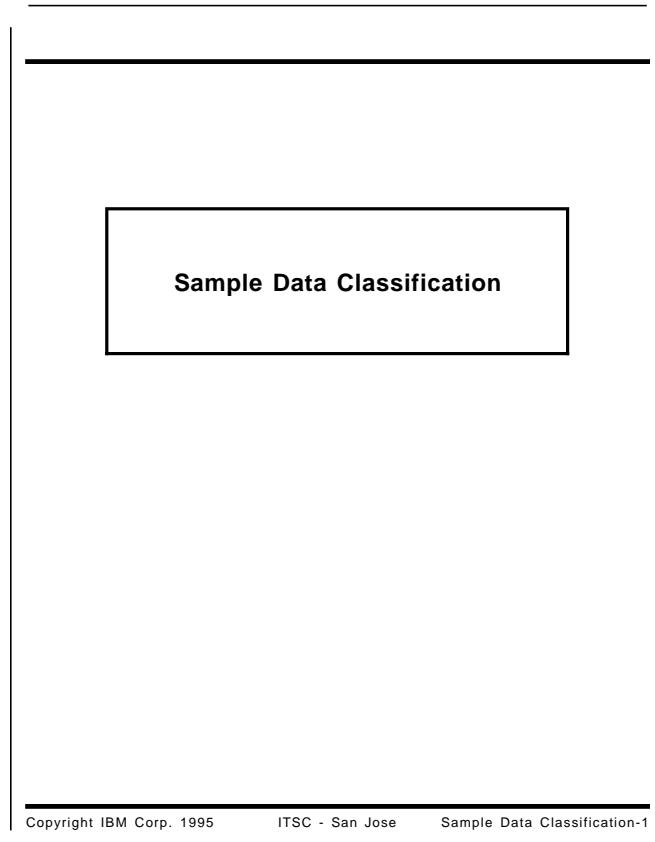
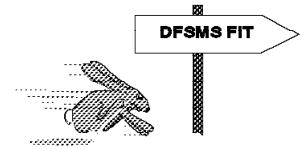
- Storage services at DFSMS implementation
 - Allocation controls through pools
 - Limited data migration
 - No automated deletion
 - Weekly volume dumps
 - Incremental backup for selected pools
 - Limited volume caching
- Goals for DFSMS implementation
 - Provide more standards for users and enforce them
 - Migrate to HSM and provide data set level services
 - Support DASD growth without staff increase
 - Move private volumes to DFSMS
 - Make migration as transparent as possible to users
 - Increase the use of cache

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Sample Installations-32

Chapter 2. Sample Data Classification



This chapter shows the data classification results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 2 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand data classification and the information in this chapter.

The first foil for each installation summarizes the installation's data and data classification considerations for its DFSMS design.

1 - Medium-Sized Government

- Only temporary data sets were included in the initial DFSMS implementation
- VIO was used
- Implementation was within one week
- Installation had limited staff and a conservative implementation approach

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Exceptions

```
1
Non SMS      JCL
SC=SNONSMS
```

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System Temporary Data Classification

```
System          DSTYPE=TEMP
Temporary

DD=SORTWORK          OTHERWISE

2          3
Sort Work          Other
                Temporary
                Data

SC=SNOVIO          SC=SDEFAULT
SG=GWOK           SG=SWORK,GVIO
```

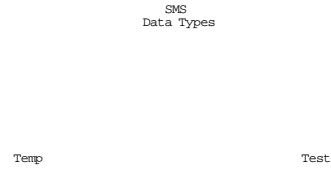
Copyright IBM Corp. 1995 ITSC - San Jose Sample Data Classification-4

2 - Small-Sized Bank

- Work, TSO, and test data were included in the initial DFSMS implementation
- Work, TSO, and test data were all placed into the same DFSMS pool
- Installation approach was to have two tiers of service, normal and critical
- Batch and online test data were managed in the same pool and with the same services
- Management class naming was defined to indicate services provided

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SMS Data Types



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Temporary Data Classification

```

Temp
  DSTYPE=TEMP
    1 OTHERWISE
      Normal
      SC=SMAYBE
      SG=GTEMP80,GTEMP90
    2 JOB=list
      Critical Applications
      SC=SALWAYS
      SG=GTEMP80,GTEMP90
  
```

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Test Data Classification

```

Test
  SG=GTEST80,GTEST90
  HLQ= T*, Q*
  APPLIC= SMSTSO
  TSO Batch, DB and CICS
  OTHERWISE HLQ= ZZ*
  5 Normal 6 Critical
  SC=SNEVER MC=MLDMMFB SC=SMAYBE MC=MLDMMFB
  LLQ= LOG,LST, LIST OTHERWISE
  3 Session 4 User
  Dependent
  SC=SNEVER MC=MLDMMFB SC=SNEVER MC=MLDMMFB
  
```

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Exceptions

Exceptions

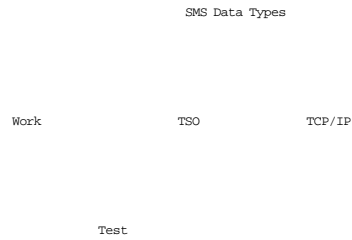
7		8	
Non SMS	JCL	Hand Placement	JCL
SC=SNONSMS		SC=SMAYBEG, SALWAYG	

3 - Small-Sized Utility

- Work, TSO, TCP/IP, and test data were included in the initial DFSMS implementation
- TCP/IP data, uploaded to MVS from distributed workstations, was managed
- GDGs were managed separately from other test data

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Identification of SMS Data Types



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Work Data Classification

1
Work DSTYPE=TEMP
SC=SCMED
SG=SGWORK
MC N/A

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TSO Data Classification

TSO USER=HLQ
OR
UNIT=TSODA
SC=SCMED
SG=SGCOMMON
HLQ=list including OTHERWISE
*.ISMP.***.SPTEMP**.*.*LIST
2 3
Transient Permanent
MC=MCINTRM MC=MCSTD

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TCP/IP Data Classification

```

TCP/IP          UNIT=TCPIPDA

                SG=SGCOMMON
                MC=MCINFORM

    OTHERWISE          DSN=list
4
Normal                5 Cache
                    Offenders

                SC=SCMED          SC=SLOW
    
```

Test Data Classification

```

Test          DSN=****T.**
              and
              DSGORG =PO

                SG=SGCOMMON
                MC=MCXBCK

    OTHERWISE          DSN=list
6
Sequential      7          8 Cache
and VSAM        GDGs      Offenders

                SC=SCMED          SC=SCMED          SC=SLOW
    
```

Exceptions

```

Exceptions

                JCL          JCL          JCL
9
Hand          10          11
Placed        Non SMS    Special
              GDGs

                SC=SCMEDGS, SLOWGS    SC=SCNOSMS    MC=MCJGDGTP
    
```


4 - Large-Sized Transportation Company

- Work, test, TSO, online production, and batch production data were included in the initial implementation
- Test and TSO data were stored in the same pool and given the same services
- Installation had an extensive work pool service for both temporary and permanent work data sets
- JCL and program libraries were given separate services

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SMS Data Types

SMS Data Types

Test/TSO	Work	Production Online DB	Batch Production
----------	------	-------------------------	---------------------

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Test/TSO Data Classification

HLQ=T%\$\$\$ and 2LQ =T*
or U*

Test/TSO

1	2	3
Online and VSAM	Libraries	EXCEPTION Need Always Cache
DSN=list	DSORG=PDS	DSN=list
SC=SCNORM MC=MCTONL SG=TESTONL	SC=SCNORM MC=MCTLIB SG=TEST	SC=SCCRIT MC=based on data SG=TEST
4	5	6
Logon Data	Scratch Data	Permanent Data
DSN=list	DSN=list	OTHERWISE and SIZE 10 MB
SC=SCNORM MC=MCTONMIG SG=TEST	SC=SCNORM MC=MCSNCRATCH SG=TEST	SC=SCNORM MC=MCT SG=TEST

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Work Data Classification

Work

7	8
System Temporary	System Temporary Sort Work
DSTYPE=TEMP DD =SORTWK*	DSTYPE=TEMP DD=SORTWK*
SC=SCNORM SG=WORK	SC=SCNONVIO SG=WORK, VIO
9	10
Production Temporary	Test Temporary
HLQ=P%\$\$\$ and 2LQ=T* and UNIT=SYSDA	HLQ=T%\$\$\$ and 2LQ=T* and UNIT=SYSDA
SC=SCNORM MC=MCSNCRATCH SG=WORK	SC=SCNORM MC=MCSNCRATCH SG=WORK

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Production Online Data Base Data Classification

HLQ=list or
DSN=list

Production
Online DB

DSN=list	DSN=list	OTHERWISE
11 CICS and DB2 System	12 Shared Data Bases	13 Normal Data Bases
SC=SCFAST MC=MCNOACT SG=ONLINE	SC=SCFAST MC=MCNOACT SG=ONLINE	SC=SCFAST MC=MCNOACT SG=ONLINE
DSN=list	DSN=list	
14 EXCEPTION Need Hand Placement	15 EXCEPTION Need Always Cache	
SC=SCFASTG, SCCRITG MC=MCNOACT SG=ONLINE	SC=SCCRIT MC=MCNOACT SG=ONLINE	

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Production Batch Data Classification

HLQ=P##### and 2LQ =T**
and DSN =online data

Batch
Production

OTHERWISE	DSN=list	SIZE xx MB
16 GDGs, PS and VSAM	17 EXCEPTION Need Always Cache	18 EXCEPTION Rewrite not Reallocate
SC=SCNORM MC=MCNPDAY SG=PROD	SC=SCCRIT MC=MCPSML SG=PROD	SC=SCNORM MC=MCPLRG SG=PROD
DSN=new stand.	DSN=list	DSORG=PDS DSN=online data
19 Backups	20 GDGs with all version on primary	21 Online Libraries
SC=SCNORM MC=MCNOBACK SG=PROD	SC=SCNORM MC=MCNRMIG SG=PROD	SC=SCFAST MC=MCPLIB SG=PROD
		22 Batch Libraries
		DSORG=PDS DSN =online data
		SC=SCNORM MC=MCPLIB SG=PROD

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Storage Administration Exceptions

Any Data	USER=storage admin. JCL class
STORCLAS=SCNONSMS	STORCLAS =** or MGMTCLAS =**
23 Override to Non SMS	24 Override STORCLAS or MGMTCLAS
SC=**	SC=JCL STORCLAS MC=JCL MGMTCLAS

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5 - Large-Sized Bank

- Work, test, online production, and batch production data were included in the initial DFSMS implementation
- Installation used the work pool for database reorganization during weekend processing
- Large data sets were provided different management class services and stored in separate pools
- Program and JCL libraries and GDGs were given separate services

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SMS Data Types

SMS Data Types

Temporary	Test	Production	Online
-----------	------	------------	--------

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Temporary Data Classification

Temporary		
1	2	3
DSTYPE =TEMP	DSTYPE=TEMP AND DD=SORTWK*	DSN=IMSDB.INFO.** HSM.**BU.** pattern for SDSF
System Temporary	Sort Work	Reorg Data Used on Weekends
SC=SCFAST SG=WORK90 or VIO MC=N/A	SC=SCNONVIO SG=WORK90 MC=N/A	SC=SCFAST SG=WORK90 MC=MCNOACT

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Test Data Classification

Test Data		HLQ=long list or DSN=long list
OTHERWISE	DSN=list	DSN=list
Normal Data	6 Data to be Scratched Quickly	7 Used at LOGON
SC=SCNORM MC=MCNEDMIG	SC=SCNORM MC=MCLEAN	SC=SCNORM MC=MCMTMIG
SIZE 0 50MB 4	SIZE 50 +MB 5	
	MC=MCMTMIG	
SG=TEST90, TEST80	SG=TEST90, TEST80	

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Production Batch Data Classification

```

Production          DSN=list or
                   HLQ=list and
                   DSORG =VS

      OTHERWISE          DSN=list          DSTYPE=GDG
      Normal            10                11
      Data              Libraries          GDG

      SC=SCNORM         SC=SCFAST         SC=SCNORM
      MC=MCPMIG         MC=MCNODEL        MC=MCQIKMIG

      SIZE 0 50MB or   SIZE 50 +MB
      2LQ=*BKP*,*XMT*
      8                9

      MC=MCQIKMIC

      SG=PROD90S or   SG=PROD90L
      PROD80S
    
```

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Online and VSAM Production Data Classification

```

Online

      HLQ=IMSAV,IMSDB DSN=CPCBD.O*** DSN=IRMBP.SDB0013***
      DSN =IMSDB.
      INFO***
      12                13                14
      IMS                CPCS                Online
                                       VSAM

      SC=SCFAST         SC=SCFAST         SC=SCFAST
      MC=MCNOACT        MC=MCNOACT        MC=MCNOACT
      SG=ONL80          ONL90 SG=ONL80    ONL90 SG=ONL80  ONL90
    
```

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Storage Administration Exceptions

```

Any Data          USER=storage admin.
                  JCL class

      STORCLAS=SCNONSMS          STORCLAS =** or
      15                          MGMTCLAS =**
      Override                    16
      to Non SMS                  Override
      SC=**                        STORCLAS or
                                  MGMTCLAS

      SC=JCL STORCLAS            SC=JCL STORCLAS
      MC=JCL MGMTCLAS            MC=JCL MGMTCLAS
    
```

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Systemwide Exceptions

```

Any Data

      DSN=list          DSN=list          JCL
      17                18                19
      Never             Bad Cache          Short Life
      Migrate           GDG
      MC=MCNOMIG        SC=SCSLOW          MC=MCCLAN

      DSN=list          JCL
      20                21
      Never             No Backup
      Migrate           Data
      MC=MCNOMIG        MC=MCNOBACK or
    
```

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6 - Large-Sized Manufacturing Company

- Work, TSO, test, and batch production data were included in the initial implementation of DFSMS
- Both temporary and permanent data sets were included in the work pool
- Large data sets were stored separately
- Separate management class services were provided for program and JCL libraries
- Installation wanted to provide always cache service to selected critical applications
- Application development data was split between the TSO and data pools according to where used in the application development and testing process

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Identification of SMS Data Types

SMS Data Types

Scratch TSO Data

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Scratch Data Classification

Scratch

1	2	3
DSTYPE=TEMP Temporary Not Sortwork	DSTYPE=TEMP and DD=SORTWK* Temporary Sortwork	ANYVOL=SCR* or UNIT=DISK Permanent Short Life
SC=SCHI SG=SGWORK,SGVIO MC N/A	SC=SCHI SG=SGWORK MC N/A	SC=SCMED SC=SGWORK MC=MCTEMP

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TSO Data Classification

TSO HLQ=list of items
in the form of
aa*****

4	5	6
LLQ=list including OBJ, LIST,OUTLIST,OUTPUT and DSORG=PS Transient	MAXSIZE =25 MB Large	OTHERWISE Small
SC=SCMED SC=SCSMALL MC=MCSHORT	SC=SCMED SC=SCGLARGE MC=MCMEDMIG	SC=SCMED SC=SCSMALL MC=MCMEDMIG

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Data Data Classification

```

                                Data
                                DSN=list      DSN=list
                                9              10
                                Critical      Cache
                                Performance   Offenders
                                CPS          Data
                                SC=SCHI      SC=SLOW
                                SG=SGSMALL * SG=SGSMALL *
                                MC=MCERLMIG # MC=MCERLMIG #

                                DSN=list
                                DSORG=PO and  DSN=list
                                HLQ =system
7
                                8
                                PDS          Parvalet,CA7,
                                Focus,Mark4,
                                SAS,Scientif.
                                SC=SCMED     SC=SCMED
                                SG=SGSMALL * SG=SGSMALL *
                                MC=NCLATMIG  MC=NCLATMIG

                                HLQ=%%2      MAXSIZE>=25 MB
                                11           12           13           UNIT=list or
                                Test        Large        Small        DSORG =PO and
                                SC=SCMED     SC=SCMED     SC=SCMED     HLQ=list
                                SG=SGSMALL * SG=SGLARGE  SG=SGSMALL
                                MC=MCERLMIG  MC=MCERLMIG  MC=MCERLMIG
                                †† SGLARGE if MAXSIZE GT 25 MB
```

Exceptions

```

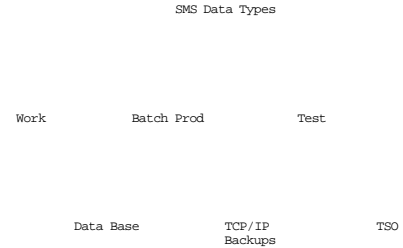
                                Non SMS      JCL
                                SC=SNONSMS
```

7 - Medium-Sized Petrochemical Company

- Work, test, TSO, batch production, online database, TCP/IP, and other data were included in the initial DFSMS implementation
- Temporary and permanent data were included in the work pool
- TCP/IP data was uploaded to MVS to backup workstations
- GSAM data was provided with separate services
- Online test and production databases were stored in the same pools
- GDGs and JCL and program libraries were provided separate services

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SMS Data Types



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Work Data Classification

Work		
DSTYPE=TEMP	DSTYPE=TEMP and DD=SORTWK*	LLQ=TEMP
1	2	3
Temporary Not Sortwork	Temporary Sortwork	Permanent Short Life
SC=SSTD SG=GVIO, GWORK8/9 MC N/A	SC=SSTD SG=GWORK8/9 MC N/A	SC=SSTD SG=GWORK8/9 MC=MTEMP

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TCP/IP Backup Data Classification

TCP/IP Backups	
HLQ=list	HLQ=list
4	5
Short Life	Normal Life
SC=SSTD SG=GWORK8/9 MC=MTCPRKMM	SC=SSTD SG=GRIME9 MC=MTCPRK

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TSO Data Classification

TSO

DSN=HSM's list	HLQ=list
<p>6</p> <p>DFHSM Scratch Freq. List</p> <p>SC=SSTD SG=GPRIME9 MC=MTCPRKRM</p>	<p>7</p> <p>Normal TSO</p> <p>SC=SSTD SG=GPRIME9 MC=MPROD or JCL override MPRODXBK</p>

Test Data Classification

Test	OTHERWISE	
<p>8</p> <p>Unit Test</p> <p>SC=SSTD SG=GPRIME9 MC=MTEST</p>	<p>9</p> <p>GSAM</p> <p>SC=SSTD SG=GPRIME9 MC=MTEST or JCL overrides to MGSAM</p>	<p>10</p> <p>System Test</p> <p>SC=SSTD SG=GPRIME9 MC=MTEST</p>

Batch Production Data Classification

Batch Prod

HLQ=list	DSN list	RACF Default
<p>12</p> <p>Normal</p> <p>SC=SSTD SG=GPRIME9 MC=MPROD</p>	<p>13</p> <p>Critical</p> <p>SC=SPREFER SG=GPRIME9 MC=MPROD</p>	<p>14</p> <p>Libs</p> <p>SC=SPREFER SG=GPRIME9 MC=MPROD</p>

11

GSAM JCL

SC=SSTD
SG=GPRIME9
MC=MGSAM

Online Database Data Classification

Online
Data Base

HLQ= list	HLQ= list and ANYVOL= list	HLQ= list and ANYVOL= list
<p>15</p> <p>Prod CICS VSAM</p> <p>SC=SSTD SG=GDBAP9 MC=MONL</p>	<p>17</p> <p>Test IMS and DB2</p> <p>SC=SSTD SG=GDBAT9 MC=MONL</p>	<p>19</p> <p>Prod IMS and DB2</p> <p>SC=SSTD SG=GDBAP9 MC=MONL</p>

DSN=list OTHERWISE DSN=list

<p>16</p> <p>Critical</p> <p>SC=SPREFER SG=GDBAP9 MC=MONL</p>	<p>18</p> <p>System Normal</p> <p>SC=SSTD SG=GDBAP9 MC=MONL</p>	<p>20</p> <p>System Special</p> <p>SC=SSTD SG=GDBAP9 MC=MPROD</p>
---	---	---

Exceptions

Exceptions

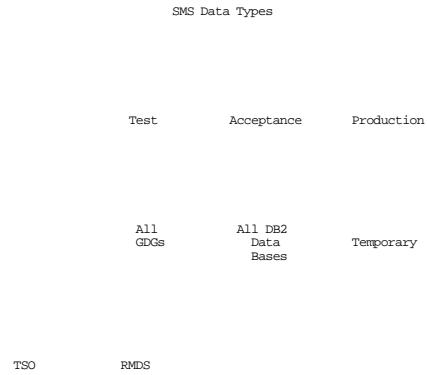
UNIT=list	DSCAT analysis	JCL
22	23	24
Non SMS	Cache Offend	Volume Specif
SC=SCNOSMS	SC-SLIMIT assigned by ALTER SG & MC=by type	SC-SG* assigned thru JCL SG & MC=by type
DSTYPE=GDS		
21		
GDG		
SC & SG by type		
MC=MGDG		

8 - Medium-Sized Retail Company

- Work, TSO, test, acceptance, batch production, GDGs, RMDS, and online databases were implemented in the initial DFSMS implementation
- Batch and online VSAM were managed together because they could not be separately identified
- Both temporary and permanent data were included in the work pool
- DB2 online data was separately stored and managed from the online VSAM data
- Installation had very limited skills and resources and IBM services implemented DFSMS on a turnkey-like basis.

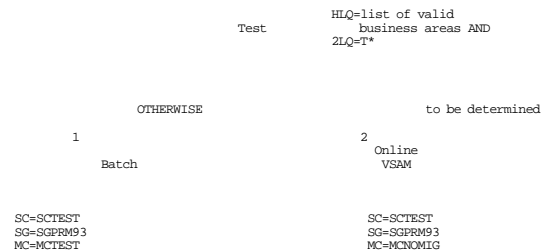
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SMS Managed Data Types



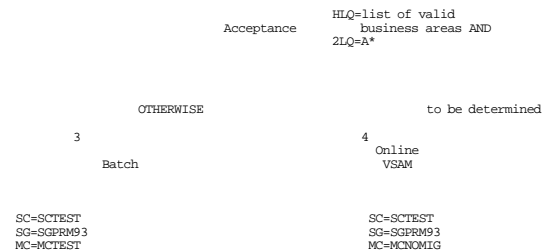
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Test Data Classification



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Acceptance Data Classification



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Production Data Classification

Production HLQ=list of valid Business areas AND ZLQ=P*

7 EXCEPTION for performance
DSN=list and ACS logic
Control=approval by technical support
SC=SCPROD

OTHERWISE to be determined

5 Batch 6 Online VSAM

SC=SCTEST
SG=SGPRM93
MC=MCPRD

8 EXCEPTION for extra backups
DSN=list and ACS logic
Control=tech support approval
MC=MCBACKUP

9 EXCEPTION for direct to tape
JCL use of MGMTCLAS
Control=none required
MC=MCTAPE

SC=SCPROD
SG=SGPRM93
MC=MCNOMIG

10 EXCEPTION for multi volume
DSN=list and ACS logic
Control=tech support approval
SG=SGCRT93

11 EXCEPTION for device performance
DSN=list and ACS logic
Control=tech support approval
SC=SCHGVOL

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All GDG Data Classification

12 GDG DSTYPE=GDG

SC=SCTEST
SG=SGPRM93
MC=MCXGDG

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DB2 Data Classification Base

DB2

HLQ=DBI%% HLQ=DBP%% HLQ=DBT%% OR DBU%%

13 Production 14 Acceptance 15 Test

SC=SCTEST SG=SGDBA93 MC=MCNOMGT

SC=SCTEST SG=SGDBA93 MC=MCNOMGT

SC=SCTEST SG=SGDBA93 MC=MCNOMGT

16 EXCEPTION for device performance
DSN=list and ACS logic
Control=tech support approval
SC=SOGVOL

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Temporary Data Classification

Temporary

20 EXCEPTION for performance
DSN=list and ACS logic
Control=tech support approval
SC=SCPROD

DSTYPE =TEMP DSTYPE=TEMP AND DD=SORTWK* PGM=ICEMAN LLQ=TEMP OR TMP

17 System Temporary 18 Sort Work 19 Permanent One Day

SC=SCTEST SG=SGIMP93 or SGVIO MC=N/A

SC=SONOVIO SG=SGIMP93 MC=N/A

SC=SCTEST SG=SGIMP93 MC=MCTEMP

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TSO Data Classification

```
                TSO          HLQ=$$$$$$
                               where $ is a list
                               of characters

    OTHERWISE          DSN=list          DSN=list

21 Normal          22          23
Data              LIST, LOG,          Used at
                  ISPFTEMP,CNTL     LOGON
                  type data

SC=SCTEST          SC=SCTEST          SC=SCTEST
SC=SGPRM93         SC=SGPRM93         SC=SGPRM93
MC=MCTEST          MC=MCINTERM        MC=MCNOMIG
```

RMDS Data Classification

```
24
RMDS          HLQ=SYSR

SC=SCTEST
SG=SGPRM93
MC=MCTEST
```

Other Exceptions

```
25
Non SMS          JCL

SC=SCNOSMS
```

9 - Large-Sized Bank

- Work, test, TSO, IMS, batch production, JCL and program library, and tape mount and disk backup data were included in the initial DFSMS implementation
- VIO was used
- Test libraries were included with test data; production libraries were an independent data type
- GDGs and nonproduction libraries were managed with separate services
- Installation had services to place disk backup and tape mount reduction data onto tape using a DASD buffer and HSM

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SMS Managed Data Types

SMS Data Types

Test	TSO	Production
Libraries	IMS	Disk Backups and Tape Mount Reduct
System Temporary	Exceptions	

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Test Data Classification

Test		
(HLQ=list AND ZLQ=list) OR VOL=SMSVOL or TSTPRM OR UNIT=TESTPERM	4	(HLQ=list AND ZLQ=list) OR VOL=TSTWRK OR UNIT=TESTWORK
Permanent	Work	
	SC=SCNEVER SG=TESTWORK MC=MC#3	
DSNTYPE=PDS	DSTYPE=GDS	OTHERWISE
1	2	3
PDS	GDG	Other
SC=SCNEVER SG=TESTBASE MC=MC#1	SC=SCNEVER SG=TESTBASE MC=MC#2	SC=SCNEVER SG=TESTBASE MC=MC#2

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TSO Data Classification

TSO		
HLQ=list of IDS in the form of ***** with Excludes		
DSNTYPE=PDS	OTHERWISE	HLQ=list AND ZLQ=list
5	6	7
PDS and Recovery DS	Data	LIST, LOG and Work
SC=SCNEVER SG=TESTBASE MC=MC#1	SC=SCNEVER SG=TESTBASE MC=MC#2	SC=SCNEVER SG=TESTWORK MC=MC#3

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Production Data Classification

Production

HLQ=list ZLQ=list 11 Permanent	DSN=list 12 Exceptions Work	HLQ=list ZLQ=list 13 LOAD, PROC, Etc.
SC=SCALWAYS or SCNEVER SG=PRODBASE or PRODLRGE MC=MCH4, 5, 6 or 7	SC=SCMAYBE SG=PRODWORK MC=MCH6	(HLQ=list AND ZLQ=list) OR DSN=list 14 Source
DSNATYPE=PDS 8 PDS	DSTYPE=GDS 9 GDG	OTHERWISE 10 Other
SC=SCMAYBE SG=PRODBASE MC=MCH4	SC=SCMAYBE SG=PRODBASE MC=MCH5	SC=SCNEVER SG=PRODBASE MC=MCH8

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Library Data Classification

Libraries

HLQ=list AND ZLQ=list 13 LOAD, PROC, Etc.	DSN=list 12 Exceptions Work	HLQ=list ZLQ=list 14 Source
SC=SCALWAYS SG=PRODBASE MC=MCH8	SC=SCMAYBE SG=PRODWORK MC=MCH6	(HLQ=list AND ZLQ=list) OR DSN=list 14 Source
SC=SCMAYBE SG=PRODBASE MC=MCH4	SC=SCMAYBE SG=PRODBASE MC=MCH5	SC=SCNEVER SG=PRODBASE MC=MCH8

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IMS Data Classification

IMS

DSN=list 15 Data Bases	DSN=list 16 Storage Class Exceptions	DSN=list 19 Storage Class Exceptions
SC=SCMAYBE SG=PRODBASE MC=MCH9	SC=SCALWAYS or SCNEVER SG=PRODBASE MC=MCH9	SC=SCALWAYS or SCMAYBE SG=HOLDTANK MC=MCH10 or MCH11

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Disk Backup Data Classification

Disk Backups
and Tape
Mount. Reduct.

ZLQ=EKP AND UNIT=DASD list 17 Standard	ZLQ=EKU AND UNIT=DASD list 18 Keep for a Long Time	DSN=list 19 Storage Class Exceptions
SC=SCNEVER SG=HOLDTANK MC=MCH10	SC=SCNEVER SG=HOLDTANK MC=MCH11	SC=SCALWAYS or SCMAYBE SG=HOLDTANK MC=MCH10 or MCH11

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System Temporary Data Classification

System Temporary	DSTYPE=TEMP
DD=SORTWORK	OTHERWISE
20 Sort Work	21 Others
SC=SCNONVIO SG=PRODBASE	SC=SCMAYBE SG=PRODBASE, VIO

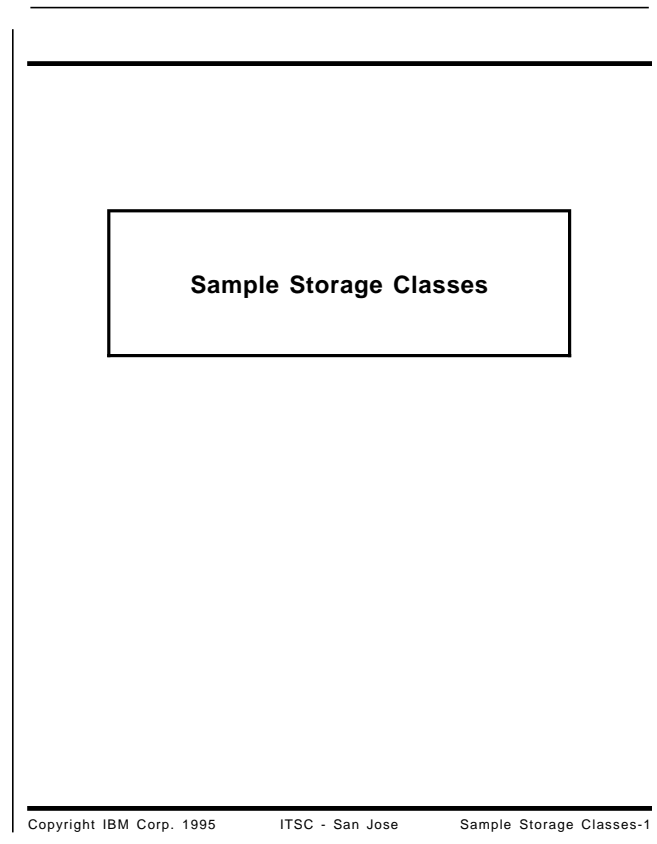
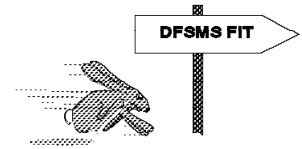
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Storage Class Exceptions

Storage Class Exceptions	
DSN=list	JCL
22 Non SMS	23 Hand Placed IMS
SC=SCNONSMS	SC=SCPCLA, SCPCLM, SCPCLN SG=PRODBASE MC=by data type

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Chapter 3. Sample Storage Class Design



This chapter shows the storage class results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 3 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand storage class design and the information in this chapter.

The first foil for each installation summarizes the installation's storage class considerations for its DFSMS design.

1 - Small-Sized Government

- A storage class for maybe cached service was defined
- Because VIO was used, a storage class for sort work data sets was defined to communicate between the storage class and group ACS routines
- A storage class to use on JCL to communicate with the storage class ACS routine and allow data sets to be placed on non-SMS DASD
- ACS code to control who can use the JCL storage class

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Storage Class Design Answers

Data Type	EXC	WK	WK						
Classification Box	1	2	3						
Performance									
Never cache									
Maybe cache		X	X						
Always cache									
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS	X								
Non-VIO		X							
Storage class ID	1	2	3						

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Storage Classes

1. SNONSMS
2. SNOVIO
3. SDEFAULT

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SNONSMS	Yes	Yes	ACS
SNOVIO	No		
SDEFAULT	No		

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Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL- ABILITY	GUARANTEED SPACE
SNONSMS						
SNOVIO	30		30		STAND.	N
SDEFAULT	30		30		STAND.	N

2 - Small-Sized Bank

- Storage classes for three levels of performance: always cache, maybe cache, and never cache
- Storage classes for each of the three performance levels to allow volume placement using GUARANTEED SPACE requested through JCL
- A storage class entered on JCL to allow data to be placed on non-SMS-managed volumes
- ACS code to control who can use the four storage classes that are entered on JCL

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Storage Class Design Answers

Data Type	WK	WK	TSO	TSO	TSO	TSO	EXC	EXC
Classification Box	1	2	3	4	5	6	7	8
Performance								
Never cache			X	X	X			X
Maybe cache	X					X		X
Always cache		X						X
Single stripe								
Multiple stripes								
Availability								
Dual copy								
Concurrent copy								
Mixed controllers extended platform								
Exception Controls								
Guaranteed space								X
Non-SMS							X	
Non-VIO								
Storage class ID	1	2	3	3	3	1	4	5-7

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Storage Classes

- SMAYBE
- SALWAYS
- SNEVER
- SNONSMS
- SNEVERG
- SMAYBEG
- SALWAYSG

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SMAYBE	No		
SALWAYS	No		
SNEVER	No		
SNONSMS	Yes	Yes	ACS
SNEVERG	Yes	Yes	ACS
SMAYBEG	Yes	Yes	ACS
SALWAYSG	Yes	Yes	ACS

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Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL- ABILITY	GUARANTEED SPACE
SMAYBE	30		30		STAND.	N
SALWAYSG	5	W	5	W	STAND.	Y
SNEVER	999		999		STAND.	N
SNONSMS						
SNEVERG	999		999		STAND.	Y
SMAYBEG	30		30		STAND.	Y
SALWAYS	5	W	5	W	STAND.	N

3 - Small-Sized Utility

- STAND. level of performance using a maybe cache storage class
- Storage class of never cache to handle exception performance problems
- Storage classes to be entered on JCL to place data sets on specific volumes for both maybe and never cache performance
- A storage class to place data outside DFSMS when requested through JCL
- ACS logic to control who can use the three JCL storage classes

Storage Class Design Answers

Data Type	WK	TSO	TSO	TCP	TCP	T	T	T	
Classification Box	1	2	3	4	5	6	7	8	
Performance									
Never cache					X			X	
Maybe cache	X	X	X	X		X	X		
Always cache									
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO		X							
Storage class ID	1	1	1	1	2	1	1	2	

Storage Class Design Answers ...

Data Type	EXC	EXC	EXC						
Classification Box	9	10	11						
Performance									
Never cache	X		X						
Maybe cache	X		X						
Always cache									
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS		X							
Non-VIO									
Storage class ID	3,4	5	1,2						

Storage Classes

1. SCMED
2. SCLOW
3. SCMEDGS
4. SCLOWGS
5. SCNOSMS

Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCMED	no		
SCLOW	no		
SCMEDGS	yes	yes	ACS
SCLOWGS	yes	yes	ACS
SCNONSMS	yes	yes	ACS

Storage Class Parameters

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL- ABILITY	GUARANTEED SPACE
SCMED	30		30		STAND.	no
SCLOW	999		999		STAND.	no
SCMEDGS	30		30		STAND.	yes
SCLOWGS	999		999		STAND.	yes
SCNONSMS						

4 - Large-Sized Transportation Company

- Two levels of performance: maybe cache and always cache storage classes
- JCL entered storage classes for volume placement using GUARANTEED SPACE for the levels of performance service
- A storage class for sort work temporary data sets to communicate between the storage class and group ACS routines to support the use of VIO
- A storage class was initially defined to provide maybe cached performance but that would allow a faster class of service for the future
- A storage class to request on JCL that data be placed on non-SMS-managed volumes
- ACS logic to prevent unauthorized users of the three JCL storage classes

Storage Class Design Answers

Data Type	T	T	T	T	T	T	T	WK	WK
Classification Box	1	2	3	4	5	6	7	8	
Performance									
Never cache					X			X	
Maybe cache	X	X		X	X	X	X	X	
Always cache			X						
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO								X	
Storage class ID	1	1	2	1	1	1	1	3	

Storage Class Design Answers ...

Data Type	WK	WK	ONL	ONL	ONL	ONL	ONL
Classification Box	9	10	11	12	13	14	15
Performance							
Never cache							
Maybe cache	X	X	X*	X*	X*	X	X
Always cache						X	
Single stripe							
Multiple stripes							
Availability							
Dual copy							
Concurrent copy							
Mixed controllers extended platform							
Exception Controls							
Guaranteed space						X	X
Non-SMS		X					
Non-VIO							
Storage class ID	1	1	4	4	4	5,6	5

Storage Class Design Answers ...

Data Type	BAT	BAT	BAT	BAT	BAT	BAT	BAT	EXC	EXC
Classification Box	16	17	18	19	20	21	22	23	24
Performance									
Never cache									
Maybe cache	X		X	X	X	X	X		X
Always cache		X						X	
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space		X				X			X
Non-SMS								X	
Non-VIO									
Storage class ID	1	5	1	1	1	6	1	7	5,6

Storage Classes

1. SCNORM
2. SCCRIT
3. SCNONVIO
4. SCFAST
5. SCCRITG
6. SCNORMG
7. SCNONSMS

Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCNORM	No		
SCCRIT	No		
SCNONVIO	No		
SCFAST	No		
SCCRITG	Yes	Yes	ACS
SCNORMG	Yes	Yes	ACS
SCNONSMS	Yes	Yes	ACS

Storage Class Design

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL-ABILITY	GUARANTEED SPACE
SCNORM	30		30		STAND.	N
SCCRIT	5	W	5	W	STAND.	N
SCNONVIO	30		30		STAND.	N
SCFAST	30		30		STAND.	N
SCCRITG	5	W	5	W	STAND.	Y
SCNORMG	30		30		STAND.	Y
SCNONSMS						

5 - Large-Sized Bank

- Two levels of performance for normal data set management: maybe cached and always cached
- A storage class to support VIO and sort work data sets
- Storage classes for the two levels of performance to satisfy JCL requested placement of data on specific volumes
- A storage class to place data outside DFSMS control when requested on JCL
- A storage class for exception data sets that require never cache performance
- ACS code to control the three storage classes that require special service, either GUARANTEED SPACE or non-SMS placement
- No control on the use of the never cache storage class on JCL

Storage Class Design Answers

Data Type	WK	WK	WK	T	T	T	T	T	T
Classification Box	1	2	3	4	5	6	7		
Performance									
Never cache									
Maybe cache				X	X	X	X		
Always cache	X	X	X						
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO		X							
Storage class ID	1	2	1	3	3	3	3		

Storage Class Design Answers ...

Data Type	BAT	BAT	BAT	BAT	BAT	BAT	ONL	ONL	ONL
Classification Box	8	9	10	11	12	13	14		
Performance									
Never cache									
Maybe cache	X	X		X					
Always cache			X		X	X	X		
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO									
Storage class ID	3	3	1	3	1	1	1		

Storage Class Design Answers ...

Data Type	EXC	EXC	EXC	EXC	EXC	EXC	EXC
Classification Box	15	16	17	18	19	20	21
Performance							
Never cache				X			
Maybe cache		X					
Always cache		X					
Single stripe							
Multiple stripes							
Availability							
Dual copy							
Concurrent copy							
Mixed controllers extended platform							
Exception Controls							
Guaranteed space		X					
Non-SMS	X						
Non-VIO							
Storage class ID	4	5,6	n/a	7	n/a	n/a	n/a

Storage Classes

1. SCFAST
2. SCNONVIO
3. SCNORM
4. SCNONSMS
5. SCFASTSG
6. SCNORMSG
7. SCSLOW

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCFAST	no		
SCNONVIO	no		
SCNORM	no		
SCNONSMS	yes	yes	ACS
SCFASTGS	yes	yes	ACS
SCNORMGS	yes	yes	ACS
SCSLOW	yes	no	

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Storage Class Design

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL-ABILITY	GUARANTEED SPACE
SCFAST	5	W	5	W	STAND.	no
SCNONVIO	5	W	5	W	STAND.	no
SCNORM	30		30		STAND.	no
SCNONSMS						
SCFASTGS	5	W	5	W	STAND.	yes
SCNORMGS	30		30		STAND.	yes
SCSLOW	999		999		STAND.	no

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6 - Large-Sized Manufacturing Company

- Three levels of performance: always, maybe, and never cache storage classes
- A storage class for sort work data sets for VIO
- A storage class to place data on non-SMS-managed volumes when requested through JCL
- ACS logic to control who can enter storage class requests on JCL

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Storage Class Design Answers

Data Type	SCR	SCR	SCR	TSO	TSO	TSO			
Classification Box	1	2	3	4	5	6			
Performance									
Never cache									
Maybe cache		X	X	X	X	X			
Always cache	X								
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO		X							
Storage class ID	1	2	3	3	3	3			

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Storage Class Design Answers ...

Data Type	DAT	DAT	DAT	DAT	DAT	DAT	DAT	EXC	
Classification Box	7	8	9	10	11	12	13	14	
Performance									
Never cache				X					
Maybe cache	X	X			X	X	X		
Always cache			X						
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS								X	
Non-VIO									
Storage class ID	3	3	1	4	3	3	3	5	

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Storage Classes

1. SCHI
2. SCNONVIO
3. SCMED
4. SCLOW
5. SCNONSMS

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCHI	Yes	Yes	ACS
SCNOVIO	No		
SCMED	Yes	Yes	ACS
SCLOW	Yes	Yes	ACS
SCNONSMS	Yes	Yes	ACS

Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL- ABILITY	GUARANTEED SPACE
SCHI	5	W	5	W	STAND.	N
SCNOVIO	30		30		STAND.	N
SCMED	30		30		STAND.	N
SCLOW	999		999		STAND.	N
SCNONSMS						

7 - Medium-Sized Petrochemical Company

- Three levels of performance through always, maybe, and never cache storage classes
- A storage class to communicate between the storage class and group ACS routines for VIO implementation of sort work data sets
- Storage classes with GUARANTEED SPACE to place data on specific volumes for each of the three performance levels when requested through JCL
- A storage class to place data outside DFSMS management through JCL request
- ACS code to control who can use JCL storage classes to request non-SMS or specific SMS volume placement.

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Storage Class Design Answers

Data Type	WK	WK	WK	TCP	TCP	TSO	TSO	T	T
Classification Box	1	2	3	4	5	6	7	8	9
Performance									
Never cache									
Maybe cache	X	X	X	X	X	X	X	X	X
Always cache									
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO	X								
Storage class ID	1	2	2	2	2	2	2	2	2

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Storage Class Design Answers ...

Data Type	T	BAT	BAT	BAT	BAT	ONL	ONL	ONL	ONL
Classification Box	10	11	12	13	14	15	16	17	18
Performance									
Never cache									
Maybe cache	X	X	X			X		X	X
Always cache				X	X		X		
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO									
Storage class ID	2	2	2	3	3	2	3	2	2

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Storage Class Design Answers ...

Data Type	ONL	ONL	EXC	EXC	EXC	EXC	EXC
Classification Box	19	20	21	22	23	24	25
Performance							
Never cache			X				X
Maybe cache	X	X			X		
Always cache						X	
Single stripe							
Multiple stripes							
Availability							
Dual copy							
Concurrent copy							
Mixed controllers extended platform							
Exception Controls							
Guaranteed space					X	X	X
Non-SMS				X			
Non-VIO							
Storage class ID	2	2	4	5	6	7	8

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Storage Class Naming

1. SNONVIO
2. SSTD
3. SPREFER
4. SLIMIT
5. SCNONSMS
6. SGSTD
7. SGPREFER
8. SGLIMIT

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Storage Class Usage Control

Storage Class	JCL Use	Protected	By What
SNONVIO	no		
SSTD	yes	no	
SPREFER	No		
SLIMIT	Yes	No	
SCNONSMS	Yes	Yes	ACS
SGSTD	Yes	Yes	ACS
SGPREFER	Yes	Yes	ACS
SGLIMIT	Yes	Yes	ACS Code

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Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL-ABILITY	GUARANTEED SPACE
SNONVIO	30		30		STAND.	N
SSTD	30		30		STAND.	N
SPREFER	5	W	5	W	STAND.	N
SLIMIT	999		999		STAND.	N
SCNONSMS						
SGSTD	30		30		STAND.	Y
SGPREFER	5	W	5	W	STAND.	Y
SGLIMIT	999		999		STAND.	Y

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8 - Medium-Sized Retail Company

- Two levels of performance through always and maybe cache storage classes
- Two storage classes to request specific volume placement for the two levels of performance
- A storage class to support the use of VIO and avoid placing sort work data sets in VIO
- A storage class to place data on non-SMS-managed volumes by JCL request
- ACS code to prevent the use of the non-SMS storage class on JCL by unauthorized users

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Storage Class Design Answers

Data Type	T	T	ACC	ACC	PRO	PRO	PRO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Performance									
Never cache									
Maybe cache	X	X	X	X	X		X		
Always cache						X	X		
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space							X		
Non-SMS									
Non-VIO									
Storage class ID	1	1	1	1	1	2	3,4	n/a	n/a

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Storage Class Design Answers ...

Data Type	PRO	PRO	GDC	DB2	DB2	DB2	DB2		
Classification Box	10	11	12	13	14	15	16		
Performance									
Never cache									
Maybe cache			X	X	X	X	X		
Always cache		X							
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space		X					X		
Non-SMS									
Non-VIO									
Storage class ID	n/a	4	1	1	1	1	3		

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Storage Class Design Answers ...

Data Type	WK	WK	WK	WK	TSO	TSO	TSO	R	EXC
Classification Box	17	18	19	20	21	22	23	24	25
Performance									
Never cache									
Maybe cache	X	X	X		X	X	X	X	
Always cache				X					
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									X
Non-VIO		X							
Storage class ID	1	5	1	2-4	1	1	1	1	6

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Storage Classes

1. SCPROD
2. SCTEST
3. SCHIGVOL
4. SCGVOL
5. SCNOVIO
6. SCNOSMS

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCPROD	No	Yes	ACS
SCTEST	No		
SCHIGVOL	No	Yes	ACS
SCGVOL	No	Yes	ACS
SCNOVIO	No	Yes	ACS
SCNOSMS	Yes	Yes	ACS

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Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL- ABILITY	GUARANTEED SPACE
SCPROD	5	W	5	W	STAND.	N
SCTEST	25		25		STAND.	N
SCHIGVOL	5	W	5	W	STAND.	Y
SCGVOL	25		25		STAND.	Y
SCNOVIO	25		25		STAND.	N
SCNOSMS						

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9 - Large-Sized Bank

- Three levels of storage class performance: always cache, maybe cache, and never cache
- Three storage classes, one for each performance level, to allow selection of a specific volume requested through JCL
- A storage class to support VIO and sort work data sets
- A storage class to allow placement of data outside DFSMS when requested on JCL
- ACS logic to control who can use non-SMS and volume placement for always and maybe caching through JCL requests

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Storage Class Design Answers

Data Type	T	T	T	T	TSO	TSO	TSO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Performance									
Never cache	X	X	X	X	X	X	X		
Maybe cache								X	X
Always cache									
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO									
Storage class ID	1	1	1	1	1	1	1	2	2

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Storage Class Design Answers ...

Data Type	PRO	PRO	PRO	LIB	LIB	IMS	IMS		
Classification Box	10	11	12	13	14	15	16		
Performance									
Never cache		X			X		X		
Maybe cache	X		X			X			
Always cache		X		X			X		
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space									
Non-SMS									
Non-VIO									
Storage class ID	2	1,3	2	3	1	2	1,3		

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Storage Class Design Answers ...

Data Type	B T	B T	B T	WK	WK	EXC	EXC		
Classification Box	17	18	19	20	21	22	23		
Performance									
Never cache	X	X					X		
Maybe cache			X	X	X		X		
Always cache			X				X		
Single stripe									
Multiple stripes									
Availability									
Dual copy									
Concurrent copy									
Mixed controllers extended platform									
Exception Controls									
Guaranteed space							X		
Non-SMS						X			
Non-VIO				X					
Storage class ID	1	1	2,3	4	2	5	6-8		

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Storage Classes

1. SCNEVER
2. SCMAYBE
3. SCALWAYS
4. SCNONVIO
5. SCNONSMS
6. SCPCLA
7. SCPCLM
8. SCPCLN

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Storage Class Protection

Storage Class	JCL Use	Protected	By What
SCNEVER	no		
SCMAYBE	no		
SCALWAYS	no		
SCNONVIO	no		
SCNONSMS	yes	yes	ACS
SCPCLA	yes	yes	ACS
SCPCLM	yes	yes	ACS
SCPCLN	no		

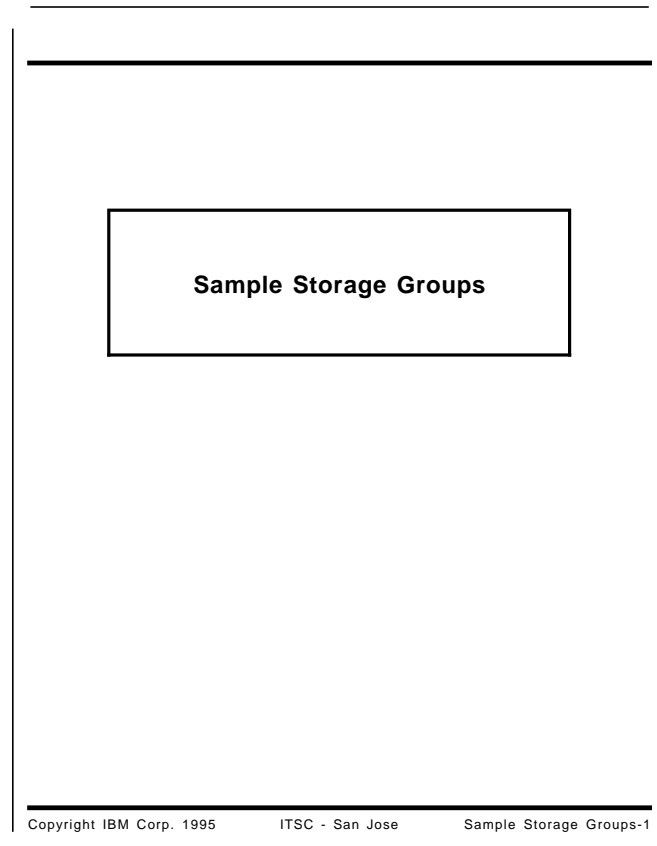
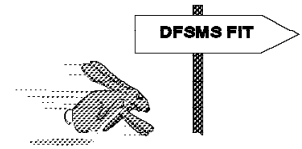
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Storage Class Definitions

STORCLAS NAME	DIR RESP MSEC	DIR BIAS	SEQ RESP MSEC	SEQ BIAS	AVAIL-ABILITY	GUARANTEED SPACE
SCNEVER	999		999		STAND.	no
SCMAYBE	30		30		STAND.	no
SCALWAYS	5	W	5	W	STAND.	no
SCNONVIO	30		30		STAND.	no
SCNONSMS						
SCPCLA	5	W	5	W	STAND.	yes
SCPCLM	30		30		STAND.	yes
SCPCLN	999		999		STAND.	yes

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Chapter 4. Sample Storage Group Design



This chapter shows the storage group results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 4 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand storage group design and the information in this chapter.

The first foil for each installation summarizes the installation's storage group considerations for its DFSMS design.

1 - Small-Sized Government

- A work storage group was defined to support work data
- A VIO storage group was defined to support VIO
- Automigration, autobackup, and autodump were not required for work data

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Storage Group Design Answers

Data Type	EXC	WK	WK						
Classification Box	1	2	3						
Volume Sharing									
Shared	X	X	X						
Dedicated System									
Device Geometry									
3380s		X	X						
3390s									
3390-9s									
RAMACs									
Isolated Pool									
WORK		X	X						
VIO									
VIO Pool			X						
Data Set Size									
Large Pool									
Storage Group Id	n/a	1	1,2						

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Storage Groups

1. GWORK
2. GVIO

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Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
GWORK	POOL			N		N
GVIO	VIO	1MB	3380			

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Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
GWORK		N				
GVIO						

2 - Small-Sized Bank

- Two pools, test and temp, were needed for the initial implementation
- Each pool initially contained 3380 and 3390 device types
- Only the test storage groups required to allow automigration, autobackup, and autodump
- DASD space in the test pool was to be managed to allow 20% freespace for daily processing and 5% freespace for secondary allocations

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Storage Group Design Answers

Data Type	WK	WK	TSO	TSO	TSO	TSO	EXC	EXC	
Classification Box	1	2	3	4	5	6	7	8	
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	
Dedicated System									
Device Geometry									
3380s	X	X	X	X	X	X	X	X	
3390s	X	X	X	X	X	X	X	X	
3390-9s									
RAMACs									
Isolated Pool									
TEMP	X	X							
TEST			X	X	X	X			
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	1,2	1,2	3,4	3,4	3,4	3,4	n/a	n/a	

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Storage Groups

1. GTEMP80
2. GTEMP90
3. GTEST80
4. GTEST90

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Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
GTEMP80	POOL			N		N
GTEMP90	POOL			N		N
GTEST80	POOL			Y		Y
GTEST90	POOL			Y		Y

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Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
GTEMP80		N				
GTEMP90		N				
GTEST80		Y		95	80	
GTEST90		Y		95	80	

3 - Small-Sized Utility

- A storage group for work data was defined
- A common storage group for TSO, TCP/IP, and test data was defined
- Automigration, autobackup, and autodump were enabled for the common pool
- Common pool managed by DFSMS to provide 30% freespace for daily processing and 10% freespace for secondary allocation

Storage Group Design Answers

Data Type	WK	TSO	TSO	TCP	TCP	T	T	T	
Classification Box	1	2	3	4	5	6	7	8	
Volume Sharing									
Shared									
Dedicated System	B	B	B	B	B	B	B		
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	
3390-9s									
RAMACs									
Isolated Pool									
WORK	X								
COMMON		X	X	X	X	X	X		
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	1	2	2	2	2	2	2	2	

Storage Group Design Answers ...

Data Type	EXC	EXC	EXC						
Classification Box	9	10	11						
Volume Sharing									
Shared									
Dedicated System	B	B	B						
Device Geometry									
3380s									
3390s	X	X	X						
3390-9s									
RAMACs									
Isolated Pool									
WORK									
COMMON	X	X	X						
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	n/a	n/a	n/a						

Storage Groups

1. SGWORK
2. SGCOMMON

Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
SGWORK	POOL			N		N
SGCOMMON	POOL			Y		Y

Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
SGWORK		N				
SGCOMMON		Y		90	70	

4 - Large-Sized Transportation Company

- Test data was split into two pools: test and test online
- Each of the three other data types (work, online, and batch production) was isolated to separate pools
- A VIO storage group was defined to support VIO
- Automatic services were not required for the work pool
- Only automigration was enabled for the online test pool
- Automigration, autobackup, and autodump were enabled for the test, online, and batch production pools
- Migrated pools were managed to provide 30% freespace for daily processing and 10% freespace for secondary allocations

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Storage Group Design Answers

Data Type	T	T	T	T	T	T	T	WK	WK
Classification Box	1	2	3	4	5	6	7	8	
Volume Sharing									
Shared									
Dedicated System	A	A	A	A	A	A	A	A	
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	
3390-9s									
RAMACs									
Isolated Pool									
TEST ONLINE	X								
TEST		X	X	X	X	X			
WORK								X	X
ONLINE									
PROD									
VIO Mapping									
VIO Pool									X
Data Set Size									
Large Pool									
Storage Group Id	1	2	2	2	2	2	3	3,4	

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Storage Group Design Answers ...

Data Type	WK	WK	ONL	ONL	ONL	ONL	ONL
Classification Box	9	10	11	12	13	14	15
Volume Sharing							
Shared							
Dedicated System	A	A	A	A	A	A	A
Device Geometry							
3380s							
3390s	X	X	X	X	X	X	X
3390-9s							
RAMACs							
Isolated Pool							
TEST ONLINE							
TEST							
WORK	X	X					
ONLINE			X	X	X	X	X
PROD							
VIO Mapping							
VIO Pool							
Data Set Size							
Large Pool							
Storage Group Id	3	3	5	5	5	5	5

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Storage Group Design Answers ...

Data Type	BAT	BAT	BAT	BAT	BAT	BAT	BAT	EXC	EXC
Classification Box	16	17	18	19	20	21	22	23	24
Volume Sharing									
Shared									
Dedicated System	A	A	A	A	A	A	A	A	A
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
TEST ONLINE								X	X
TEST								X	X
WORK								X	X
ONLINE								X	X
PROD	X	X	X	X	X	X	X	X	X
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	6	6	6	6	6	6	6	n/a	n/a

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Storage Groups

1. TESTONL
2. TEST
3. WORK
4. VIO
5. ONLINE
6. PROD

Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
TESTONL	POOL			Y		N
TEST	POOL			Y		Y
WORK	POOL			N		N
VIO	VIO		3390			
ONLINE	POOL			Y		Y
PROD	POOL			Y		Y

Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
TESTONL		N		90	70	
TEST		Y		90	70	
WORK		N		90	70	
VIO						
ONLINE		Y		90	70	
PROD		Y		90	70	

5 - Large-Sized Bank

- Installation decided to add device identifier to storage group names
- Separate pools were defined for each data type; work, test, batch, and online
- 3380 and 3390 devices initially used to support the test, production, and online pools
- A VIO storage group was defined to support VIO
- Autodump was not used in the installation's initial DFSMS implementation
- The work pool required only automigration service
- All other pools had both automigration and autodump enabled
- Migration-enabled pools were managed with 35% freespace for daily processing and 5% freespace for secondary allocation

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Storage Group Design Answers

Data Type	WK	WK	WK	T	T	T	T		
Classification Box	1	2	3	4	5	6	7		
Volume Sharing									
Shared	X	X	X	X	X	X	X		
Dedicated System									
Device Geometry									
3380s				X	X	X	X		
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
WORK	X	X	X						
TEST				X	X	X	X		
PROD									
ONLINE									
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool									
Storage Group Id	1,2	2	2	3,4	3,4	3,4	3,4		

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Storage Group Design Answers ...

Data Type	BAT	BAT	BAT	BAT	ONL	ONL	ONL		
Classification Box	8	9	10	11	12	13	14		
Volume Sharing									
Shared	X	X	X	X	X	X	X		
Dedicated System									
Device Geometry									
3380s	X		X	X	X	X	X		
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
WORK									
TEST									
PROD	X	X	X	X					
ONLINE					X	X	X		
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool				X	X	X			
Storage Group Id	5,6	7	5,6	5,6	7,8	7,8	7,8		

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Storage Group Design Answers ...

Data Type	EXC	EXC	EXC	EXC	EXC	EXC	EXC		
Classification Box	15	16	17	18	19	20	21		
Volume Sharing									
Shared									
Dedicated System	A	A	A	A	A	A	A		
Device Geometry									
3380s	X	X	X	X	X	X	X		
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
WORK	X	X	X	X	X	X	X		
TEST	X	X	X	X	X	X	X		
PROD	X	X	X	X	X	X	X		
ONLINE	X	X	X	X	X	X	X		
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

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Storage Groups

1. WORK90
2. VIO
3. TEST80
4. TEST90
5. PROD80S
6. PROD90S
7. PROD90L
8. ONL80
9. ONL90

Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
WORK90	POOL			Y		N
VIO	VIO		3390			
TEST80	POOL			Y		Y
TEST90	POOL			Y		Y
PROD80S	POOL			Y		Y
PROD90S	POOL			Y		Y
PROD90L	POOL			Y		Y
ONL80	POOL			Y		Y
ONL90	POOL			Y		Y

Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
WORK90		N				
VIO						
TEST80		N				
TEST90		N				
PROD80S		N				
PROD90S		N				
PROD90L		N				
ONL80		N				
ONL90		N				

6 - Large-Sized Manufacturing Company

- A VIO storage group was defined to support VIO
- Separate work storage group for work data
- All other initially implemented data types were placed into two common pools: one for large data sets and one for normal-sized data sets
- The large and small pools were enabled for automigration, autobackup, and autodump
- The small pool was managed with 20% freespace for daily processing and 10% for secondary allocation
- The large pool was managed with 90% freespace for daily processing and 60% for secondary allocation

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Storage Group Design Answers

Data Type	SCR	SCR	SCR	TSO	TSO	TSO			
Classification Box	1	2	3	4	5	6			
Volume Sharing									
Shared									
Dedicated System	C	C	C	C	C	C			
Device Geometry									
3380s									
3390s	X	X	X	X	X	X			
3390-9s									
RAMACs									
Isolated Pool									
WORK	X	X	X						
OTHER				X	X	X			
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool					X				
Storage Group Id	1,2	2	2	3	4	3			

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Storage Group Design Answers ...

Data Type	DAT	DAT	DAT	DAT	DAT	DAT	DAT	DAT	EXC	
Classification Box	7	8	9	10	11	12	13	14		
Volume Sharing										
Shared										
Dedicated System	C	C	C	C	C	C	C	C		
Device Geometry										
3380s										
3390s	X	X	X	X	X	X	X	X		
3390-9s										
RAMACs										
Isolated Pool										
WORK									X	
OTHER	X	X	X	X	X	X	X			
VIO Mapping										
VIO Pool	X									
Data Set Size										
Large Pool						X				
Storage Group Id	3	3	3	3	3	4	3	n/a		

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Storage Groups

1. SGVIO
2. SGWORK
3. SGSMALL
4. SGLARGE

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Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
SGVIO	VOIO	3MB	3390			
SGWORK	POOL			N		N
SGSMALL	POOL			Y		Y
SGLARGE	POOL			Y		Y

Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
SGVIO						
SGWORK		N				
SGSMALL		Y		90	80	
SGLARGE		Y		60	10	

7 - Medium-Sized Petrochemical Company

- A VIO storage group was defined to support VIO
- 3380 and 3390 devices were initially used to support the work pool
- TSO, test, and TCP/IP data types were stored together in a prime pool
- Batch and most online data were stored together in a batch production pool
- Separate storage group for online test data
- All pools were enabled for automigration, autobackup, and autodump
- All pools enabled for migration were managed with 30% freespace for daily processing and 10% freespace for secondary allocation

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Storage Group Design Answers

Data Type	WK	WK	WK	TCP	TCP	TSO	TSO	T	T
Classification Box	1	2	3	4	5	6	7	8	9
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	X
Dedicated System									
Device Geometry									
3380s	X	X	X	X					
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
WORK	X	X	X	X					
PRIME					X	X	X	X	X
DB PROD									
DB TEST									
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool									
Storage Group Id	1-3	2,3	2,3	2,3	4	4	4	4	4

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Storage Group Design Answers ...

Data Type	T	BAT	BAT	BAT	BAT	ONL	ONL	ONL	ONL
Classification Box	10	11	12	13	14	15	16	17	18
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	X
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
WORK									
PRIME	X	X	X	X	X				
DB PROD						X	X		X
DB TEST								X	
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	4	5	5	5	5	5	5	6	5

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Storage Group Design Answers ...

Data Type	ONL	ONL	EXC	EXC	EXC	EXC	EXC		
Classification Box	19	20	21	22	23	24	25		
Volume Sharing									
Shared	X	X	X	X	X	X	X		
Dedicated System									
Device Geometry									
3380s			X	X	X	X	X		
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
Work			X	X	X	X	X		
PRIME			X	X	X	X	X		
DB PROD	X	X	X	X	X	X	X		
DB TEST			X	X	X	X	X		
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool									
Storage Group Id	5	5	n/a	n/a	n/a	n/a	n/a		

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Storage Groups

1. GVIO
2. GWORK8
3. GWORK9
4. GPRIME9
5. GDBAP9
6. GDBAT9

Storage Group Definition

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
GVIO	VIO	5MB	3380			
GWORK8	POOL			Y		Y
GWORK9	POOL			Y		Y
GPRIME9	POOL			Y		Y
GDBAP9	POOL			Y		Y
GDBAT9	POOL			Y		Y

Storage Group Definition ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
GVIO						
GWORK8		Y		90	70	
GWORK9		Y		90	70	
GRPIME9		Y		90	70	
GDBAP9		Y		90	70	
GDBAT9		Y		90	70	

8 - Medium-Sized Retail Company

- A VIO storage group was defined to support VIO
- Separate pools were defined for DB2 and work data
- All other data types (test, acceptance, production batch, GDGs, TSO, and RMDS) were stored in a shared primary pool
- The installation storage group naming ended in two characters: the first indicated the DASD type, the second indicated the storage controller type
- All pool type storage groups were enabled for both automigration, autobackup, and autodump
- All pool type storage groups were initially managed with 30% freespace for daily processing and 10% freespace for secondary allocations

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Storage Group Design Answers

Data Type	T	T	ACC	ACC	PRO	PRO	PRO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	X
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
PRIME	X	X	X	X	X	X	X	X	X
DBA									
TEMP									
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool									
Storage Group Id	1	1	1	1	1	1	1	1	1

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Storage Group Design Answers ...

Data Type	PRO	PRO	GDG	DB2	DB2	DB2	DB2		
Classification Box	10	11	12	13	14	15	16		
Volume Sharing									
Shared	X	X	X	X	X	X	X		
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
PRIME	X	X	X						
DBA				X	X	X	X		
TEMP									
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	1	1	1	2	2	2	2		

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Storage Group Design Answers ...

Data Type	WK	WK	WK	WK	TSO	TSO	TSO	R	EXC
Classification Box	17	18	19	20	21	22	23	24	25
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	X
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
PRIME					X	X	X	X	X
DBA									X
TEMP	X	X	X	X					X
VIO Mapping									
VIO Pool	X								
Data Set Size									
Large Pool									
Storage Group Id	3,4	4	4	4	1	1	1	1	n/a

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Storage Groups

1. SGPRM93
2. SGDBA93
3. SGVIO
4. SGTMP93

Storage Group Definition

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
SGPRM93	POOL			Y		Y
SGDBA93	POOL			Y		Y
SGVIO	VIO	5MB	3380			
SGTMP93	POOL			Y		Y

Storage Group Definition ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
SGPRM93		Y		90	70	
SGDBA93		Y		90	70	
GVIO						
SGTMP93		Y		90	70	

9 - Large-Sized Bank

- A VIO storage group was defined to support VIO
- Separate pools for test work and production work data were defined to reduce space contention between test and production systems
- All other test data was placed in a test pool
- A shared pool for production, libraries, IMS, and work data types was defined
- A common pool for disk backup and tape mount reduction data sets was defined with hourly automigration and no autobackup
- Automigration and autobackup were enabled for all pool storage groups except the storage group for disk backup and tape mount reduction data
- All pools enabled for automigration were initially managed with 25% freespace for daily processing and 5% freespace for secondary allocation

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Storage Group Design Answers

Data Type	T	T	T	T	TSO	TSO	TSO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Volume Sharing									
Shared	X	X	X	X	X	X	X	X	X
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X	X	X
3390-9s									
RAMACs									
Isolated Pool									
TEST BASE	X	X	X		X	X			
TEST WORK				X			X		
PROD BASE								X	X
PROD WORK									
HOLD TANK									
VIO Mapping									
VIO Pool									
Data Set Size									
Large Pool									
Storage Group Id	1	1	1	2	1	1	2	3	3

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Storage Group Design Answers ...

Data Type	PRO	PRO	PRO	LIB	LIB	IMS	IMS		
Classification Box	10	11	12	13	14	15	16		
Volume Sharing									
Shared	X	X	X	X	X	X	X		
Dedicated System									
Device Geometry									
3380s									
3390s	X	X	X	X	X	X	X		
3390-9s									
RAMACs									
Isolated Pool									
TEST BASE									
TEST WORK									
PROD BASE	X	X		X	X	X	X		
PROD WORK			X						
HOLD TANK									
VIO Mapping									
VIO Pool				X					
Data Set Size									
Storage Group Id	3	3,4	5	3	3	3	3		

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Storage Group Design Answers ...

Data Type	B	T	B	T	B	T	WK	WK	EXC	EXC
Classification Box	17	18	19	20	21	22	23			
Volume Sharing										
Shared	X	X	X	X	X	X	X			
Dedicated System										
Device Geometry										
3380s										
3390s	X	X	X	X	X	X	X			
3390-9s										
RAMACs										
Isolated Pool										
TEST BASE						X				
TEST WORK							X			
PROD BASE				X	X	X	X			
PROD WORK										
HOLD TANK	X	X	X				X			
VIO Mapping										
VIO Pool										
Data Set Size										
Large Pool		X								
Storage Group Id	6	6	6	3	3,7	n/a	n/a			

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Storage Groups

1. TESTBASE
2. TESTWORK
3. PRODBASE
4. PRODLRGE
5. PRODWORK
6. HOLDTANK
7. VIO

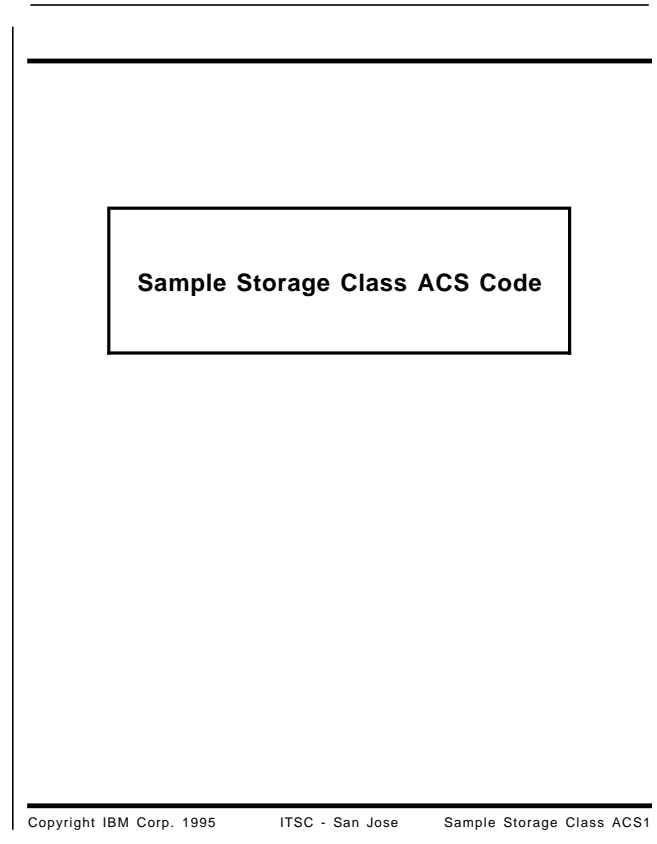
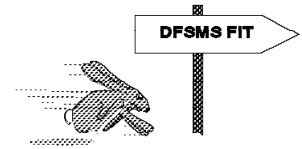
Storage Group Definitions

STORGRP NAME	SG TYPE	VIO MAXSIZE	VIO UNIT	AUTO MIGRATE	MIGRATE SYSTEM	AUTO BACK
TESTBASE	POOL			Y		Y
TESTWORK	POOL			Y		Y
PRODBASE	POOL			Y		Y
PRODLRGE	POOL			Y		Y
PRODWORK	POOL			Y		Y
HOLDTANK	POOL			I		N
VIO	VIO	8KB	3390			

Storage Group Definitions ...

STORGRP NAME	BACKUP SYSTEM	AUTO DUMP	DUMP SYSTEM	MIGR HIGH	MIGR LOW	...
TESTBASE		N		95	75	
TESTWORK		N		95	75	
PRODBASE		N		95	75	
PRODLRGE		N		95	75	
PRODWORK		N		95	75	
HOLDTANK		N		90	0	
VIO						

Chapter 5. Sample Storage Class ACS Coding



This chapter shows the storage class ACS results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 6 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand storage class ACS coding and the information in this chapter.

The first foil for each installation summarizes the installation's storage class ACS coding considerations. Be sure to consider the ACS code for planning, but do not use it without tailoring and testing it to fit your specific environment.

ACS source is not provided for the following three installations:

- Large-sized transportation company
- Medium-sized retail company
- Large-sized bank.

1 - Small-Sized Government

1. Select DASD data sets for processing, all other data is nonmanaged
2. Only allow storage administrators to set non-SMS in JCL
3. Assign temporary data sets to be SMS-managed with maybe cache performance
4. Assign all other DASD data sets to non-SMS
5. End DASD data set processing

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Storage Class ASC Routine

```
/* START OF STORAGE CLASS PROC */
PROC &STORCLAS
/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT /* SELECT #1 */
/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNIT INCLUDE ( c3380c,c3390c,SYS*,c,c,
cWORKc,cPRIMc,cPRIMc,c9340c)
WHEN (&UNIT EQ &VALID_DASD_UNIT)
SELECT /* SELECT #2 */
/* PROCESS DASD */
/* ALLOCATIONS FOR */
/* SMS OR NON SMS */
/* DO NOT MANAGE DATA FOR SPECIAL USERS THAT HAVE BEEN GIVEN */
/* AUTHORITY TO USE STORCLAS=NONSMS ON THEIR JCL */
/* THIS ALLOWS SELECTIVE OVERRIDE OF THE STORAGE CLASS ACS */
/* LOGIC DURING AN EMERGENCY SITUATION SO DATA THAT NORMALLY */
/* WOULD BE MANAGED BY SMS CAN BE ALLOCATED OUTSIDE OF SMS */
FILTLIST &SPECIAL_USER INCLUDE (STORADM USERID, OTHERcS USERID)
WHEN (&USER EQ &SPECIAL_USER
AND &STORCLAS EQ cSNONSMSc)
DO
SET &STORCLAS = c,c
EXIT
END /* END FOR DO */
```

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Storage Class ASC Routine ...

```
/* LOGIC IF VIO IS TO BE USED */
/* SORT WORK DATA SETS SHOULD NOT BE IN VIO DUE TO */
/* PERFORMANCE CONSIDERATIONS */
/* THE SORT WORK DATA SETS ARE IDENTIFIED AND ASSIGNED */
/* TO STORCLAS=NONVIO, THIS IS A SWITCH THAT IS USED IN */
/* THE STORAGE GROUP ACS LOGIC TO ASSIGN THE SORT WORK */
/* DATA SETS TO A STORAGE GROUP OTHER THAN VIO */
WHEN (( &DSTYPE EQ cTEMPc
AND &DD EQ SORTWK*))
DO
SET &STORCLAS = cSNONVIOc
EXIT
END /* END FOR DO */
/* ASSIGN TEMPORARY DATA SETS TO THE DESIRED STORCLAS */
```

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Storage Class ASC Routine ...

```
WHEN (&DSTYPE EQ cTEMPc)
DO
SET &STORCLAS = cDEFAULTc
EXIT
END /* END FOR DO */
/* OTHERWISE FOR SELECT #3 */
OTHERWISE /* FOR SELECT #3 */
/* DASD ALLOCATION */
DO
SET &STORCLAS = c,c /* DO NOT MANAGE */
/* OTHERWISE FOR SELECT #2 */
/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */
/* THEN THE DATA SET WILL RECEIVE THE DEFAULT STORCLAS SERVICE */
OTHERWISE /* FOR SELECT #2 */
/* DASD ALLOCATION */
```

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Storage Class ASC Routine ...

```
DO
    SET &STORCLAS = @@
    EXIT
END                                /* END DO      */
/* SELECT FOR DASD ALLOCATION PROCESSING */
END                                /* END SELECT #2 */
/* OTHERWISE FOR SELECT #1 */
OTHERWISE                          /* FOR SELECT 1  */
/* NON DASD TYPE */
/* ALLOCATION */
DO
    SET &STORCLAS = @@            /* DO NOT MANAGE */
    EXIT
END                                /* END DO      */
/* END SELECT FOR ALLOCATION TYPE */
END                                /* END SELECT #1 */
/* END OF STORAGE CLASS PROC */
END                                /* END PROC    */
```

2 - Small-Sized Bank

1. Select DASD data sets for processing, all other data is non-managed
2. Allow selected users to request selected storage classes to be assigned according to JCL input
3. Assign temporary data sets associated with critical jobs to be SMS-managed with always cache performance
4. Assign all other temporary data sets to be SMS-managed with maybe cache performance
5. Assign batch test critical applications to be SMS-managed with maybe cache performance
6. Assign all other test and TSO data to be SMS-managed with never cache performance
7. End DASD data set processing

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Storage Class ACS Code

```
/* PROC START UP */
PROC &STORCLAS
  SELECT
/* VALID DASD UNITS */
FILTLIST &VALID_DASD_UNITS INCLUDE ( &3380, &3390, SYS*, &,
                                     V3389, DISK)
  WHEN (&UNIT NE &VALID_DASD_UNITS)
    DO
      SET &STORCLAS = &
      EXIT
    END
/* AUTHORIZED GROUPS */
FILTLIST &AUTHORIZED_USERS INCLUDE ( very limited list of users,
                                     &PFHSM, &CHSM, including those from the safe)
FILTLIST &AUTHORIZED_STORCLAS INCLUDE ( &ALWAYS, &MAYBE, &NEVER,
                                       &ALWAYS, &MAYBE, &NEVER)
  WHEN (&USER EQ &AUTHORIZED_USERS AND &STORCLAS EQ &AUTHORIZED_STORCLAS)
    DO
      SET &STORCLAS = &STORCLAS
      EXIT
    END
  WHEN (&USER EQ &AUTHORIZED_USERS AND &STORCLAS EQ &NONSMS)
    DO
      SET &STORCLAS = &
      EXIT
    END
  END
```

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Storage Class ACS Code ...

```
/* MANAGE TEMPORARY DATA SETS */
FILTLIST &JOBS_WITH_CRITICAL_TEMP_DATASETS INCLUDE (list of jobs)
  WHEN ((&DSTYPE EQ &TEMP) AND
        (&JOB EQ &JOBS_WITH_CRITICAL_TEMP_DATASETS))
    DO
      SET &STORCLAS = &ALWAYS
      EXIT
    END
  WHEN (&DSTYPE EQ &TEMP)
    DO
      SET &STORCLAS = &MAYBE
      EXIT
    END
/* MANAGED DATA SETS */
FILTLIST &MANAGED_DATA_HLQ INCLUDE (SYS%, *****, *****, IPO*)
FILTLIST &VOLUMES_NOT_TO_MANAGE INCLUDE (list of nonSMS volumes)
  WHEN ( ( (&HLQ EQ &MANAGED_DATA_HLQ) AND
          (&VOLUME NE &VOLUMES_NOT_TO_MANAGE) ) OR
        (&APPLIC EQ &SMSDB) )
    SELECT
```

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Storage Class ACS Code ...

```
/* MANAGEMENT OF TEST DATA */
FILTLIST &HLQ_OF_HOT_TEST_APPLS INCLUDE (list of hot appl hlq)
  WHEN ((&HLQ EQ &HLQ_OF_HOT_TEST_APPLS)
    DO
      SET &STORCLAS = &MAYBE
      EXIT
    END
```

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Storage Class ACS Code ...

```
/* FOR TEST NON HOT APPL AND NON JCL OVERRIDE SYSTEM AND ALL TSO */
OTHERWISE
  DO
    SET &STORCLAS = cNEVERc
    EXIT
  END
END /* OF SELECT FOR MANAGED DATA */
/* OTHERWISE FOR END OF MAIN PROC SELECT */
OTHERWISE
  DO
    SET &STORCLAS = c c
    EXIT
  END
END /* OF PROC */
```

3 - Small-Sized Utility

1. Select DASD data sets for processing, all other data is nonmanaged
2. Allow selected users to request non-SMS to be assigned according to JCL input
3. Prevent sort work data sets from going to VIO
4. Assign all other temporary data sets to be SMS-managed with maybe cache performance
5. Assign TCP/IP, TSO, and test data sets with a request on JCL for a specific volume and performance level
6. Assign TCP/IP, TSO, and test data sets that have been identified as cache offenders to be SMS-managed with never cache performance
7. Assign all other TCP/IP, TSO, and test data to be SMS-managed with maybe cache performance
8. Assign all other (not TCP/IP, TSO, test, and temporary data) DASD data to be non-SMS
9. End DASD data set processing

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Storage Class ACS Code

```
/* START OF STORAGE CLASS PROC */
PROC &STORCLAS

/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT                                /* SELECT #1 */

/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNITS INCLUDE ( &3380, &3390, &SYSDA, &,
                                     &SYSALLDA, &DISK, &SYSQ, &TSODA, &TCPIPDA)

      WHEN (&UNIT EQ &VALID_DASD_UNITS)
        SELECT                          /* SELECT #2 */
                                          /* PROCESS DASD */
                                          /* ALLOCATIONS FOR */
                                          /* SMS OR NON SMS */

/* DO NOT MANAGE DATA FOR SPECIAL USERS THAT HAVE BEEN GIVEN */
/* AUTHORITY TO USE STORCLAS=NONSMS ON THEIR JCL */

/* THIS ALLOWS SELECTIVE OVERRIDE OF THE STORAGE CLASS ACS */
/* LOGIC DURING AN EMERGENCY SITUATION SO DATA THAT NORMALLY */
/* WOULD BE MANAGED BY SMS CAN BE ALLOCATED OUTSIDE OF SMS */
FILTLIST &SPECIAL_USERS INCLUDE (list of logon ids for DBS and
                                  system programmers)

      WHEN (&USER EQ &SPECIAL_USERS
            AND &STORCLAS EQ &SCNONSMS)
        DO
          SET &STORCLAS = &
        EXIT
      END                                /* END FOR DO */
```

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Storage Class ACS Code ...

```
/* LOGIC IF VIO IS TO BE USED */

/* SORT WORK DATA SETS SHOULD NOT BE IN VIO DUE TO */
/* PERFORMANCE CONSIDERATIONS */

/* THE SORT WORK DATA SETS ARE IDENTIFIED AND ASSIGNED */
/* TO STORCLAS=NONVIO, THIS IS A SWITCH THAT IS USED IN */
/* THE STORAGE GROUP ACS LOGIC TO ASSIGN THE SORT WORK */
/* DATA SETS TO A STORAGE GROUP OTHER THAN VIO */

      WHEN (( &DSTYPE EQ &TEMP
            AND &DD EQ SORTWR*))
        DO
          SET &STORCLAS = &SCNONVIO
        EXIT
      END                                /* END FOR DO */

/* ASSIGN TEMPORARY DATA SETS TO THE DESIRED STORCLAS */

      WHEN (&DSTYPE EQ &TEMP)
        DO
          SET &STORCLAS = &SCMED
        EXIT
      END                                /* END FOR DO */
```

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Storage Class ACS Code ...

```
/* IN SOME CASES THE ACS LOGIC IS EASIER IF THE DATA */
/* SETS THAT ARE MANAGED ARE IDENTIFIED RATHER THAN */
/* USING THE WHEN TEST FOR UNMANAGED DATA */
/* THIS LOGIC THEN INCLUDES A THIRD SELECT */

FILTLIST &TEST_DATA INCLUDE (%%T.***)

FILTLIST &LIB_DATA INCLUDE (*T.%%MAST.SOURCE,*T.IDEAL.***)

FILTLIST &SYSTEM_HLQ INCLUDE (list of system data set high level
                              qualifiers)

FILTLIST &PILOT_HLQ INCLUDE (list of pilot high level qualifiers
                             for test pilot)

FILTLIST &PILOT_DSN INCLUDE (list of pilot data set names
                              for libs pilot)

FILTLIST &PILOT_USER INCLUDE (list of pilot users
                               for tso pilot)

      WHEN
        (&UNIT EQ &TCPIPDA)
          /* TCPIP DATA */
        OR
        (
          &UNIT EQ &TSODA OR &USER EQ &HLQ)
          /* TSO DATA */
        OR
        (&DSN EQ &TEST_DATA AND &DSORG NE &PO)
          /* TEST DATA */
        OR
```

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Storage Class ACS Code ...

```

(
  &DSN EQ &LIB_DATA OR
  (&DSORG EQ &PO<& AND &HLQ NE &SYSTEM_HLQ))
/* LIBS DATA */

SELECT          /* SELECT #3 */
               /* ASSIGN STORCLAS */
               /* FOR MANAGED DATA*/

/* FOR DATA THAT IS TO BE SMS MANAGED THE FIRST */
/* ASSIGNMENT TEST IS TO SEE IF THERE IS A VALID */
/* STORCLAS ON THE JCL (OR FROM DFHSM ON RECALL OR */
/* RECOVERY), IF THERE IS WE WILL ASSIGN THAT JCL */
FILTLIST &VALID_JCL_STORCLAS  INCLUDE (&SLOWGS<&, &SCMEDGS<&,
                                       &SCHIGSS<&)

WHEN (&STORCLAS EQ &VALID_JCL_STORCLAS)

DO
  SET &STORCLAS = &STORCLAS
  EXIT
END          /* END FOR DO */

/* THE SECOND STORCLAS ASSIGNMENT TEST IS TO SEE IF THE */
/* DATA SET NEEDS A SPECIAL STORCLAS THAT CAN ONLY BE */
/* ASSIGNED BY ACS LOGIC */

```

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Storage Class ACS Code ...

```

FILTLIST &CACHE_OFFENDERS INCLUDE (list of names of data set found
                                   to be bad cache candidates)

WHEN &DSN EQ &CACHE_OFFENDERS

DO
  SET &STORCLAS = &SLOW<&
  EXIT
END          /* END FOR DO */

/* OTHERWISE FOR SELECT #3 */
OTHERWISE   /* FOR SELECT #3 */
           /* DASD ALLOCATION */

DO
  SET &STORCLAS = &SCMED<&
  EXIT
END          /* END DO */

/* END SELECT FOR SMS STORCLAS ASSIGNMENT */
END          /* END SELECT #3 */

```

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Storage Class ACS Code ...

```

/* OTHERWISE FOR SELECT #2 */
/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, ACF2 DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */
/* THEN THE DATA SET WILL RECEIVE THE DEFAULT STORCLAS SERVICE */
OTHERWISE   /* FOR SELECT #2 */
           /* DASD ALLOCATION */

DO
  SET &STORCLAS = &&
  EXIT
END          /* END DO */

/* SELECT FOR DASD ALLOCATION PROCESSING */
END          /* END SELECT #2 */

/* OTHERWISE FOR SELECT #1 */
OTHERWISE   /* FOR SELECT 1 */
           /* NON DASD TYPE */
           /* ALLOCATION */

DO
  SET &STORCLAS = &&          /* DO NOT MANAGE */
  EXIT
END          /* END DO */

/* END SELECT FOR ALLOCATION TYPE */
END          /* END SELECT #1 */

/* END OF STORAGE CLASS PROC */
END          /* END PROC */

```

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5 - Large-Sized Bank

1. Select DASD data sets for processing, all other data is nonmanaged
2. Allow selected users to request non-SMS or specific storage classes to be assigned according to JCL input
3. Assign data sets identified as bad caching data sets to be SMS-managed with never cache performance
4. Allow users who want never cache performance to request this on JCL and let the data set be SMS-managed
5. Prevent sort work data sets from going to VIO
6. Assign all other temporary data sets to be SMS-managed with always cache performance
7. Assign data sets for temporary database reorganization to be SMS-managed with always cache performance

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5 - Large-Sized Bank ...

8. Assign all test data sets to be SMS-managed with maybe cached performance
9. Assign all production libraries to be SMS-managed with always cached performance
10. Assign all other production data sets to be SMS-managed with maybe cache performance
11. Assign online database data sets requested through JCL by database administrators to be SMS-managed on specific volumes with a JCL-assigned performance level
12. Assign all other online database data sets to be SMS-managed with always cache performance
13. Assign all other (not work, test, production, or online) DASD data to be non-SMS
14. End DASD data set processing

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Storage Class ACS Code

```
/* START OF STORAGE CLASS PROC */
PROC &STORCLAS

/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT                               /* SELECT #1 */
/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNITS INCLUDE ( &3380, &3390, &SYS*, &C,
and other valid dasd esoteric names)
FILTLIST &VALID_OPTICAL_ACSENVIR INCLUDE (&STORE, &CHANGE, &CTRANS)
/* TEST FOR OPTICAL IS MADE EVEN IF NOT OPTICAL SO THAT IF OPTICAL */
/* IS ADDED AT A FUTURE TIME NO ERRORS WILL BE ADDED TO ACS CODE */
WHEN ((&UNIT EQ &VALID_DASD_UNITS)
AND (&ACSENVIR NE &VALID_OPTICAL_ACSENVIR))
SELECT                               /* SELECT #2 */
/* PROCESS DASD */
/* ALLOCATIONS FOR */
/* SMS OR NON SMS */

/* DO NOT MANAGE DATA FOR SPECIAL USERS THAT HAVE BEEN GIVEN */
/* AUTHORITY TO USE STORCLAS=SCNONSMS ON THEIR JCL */

/* THIS ALLOWS SELECTIVE OVERRIDE OF THE STORAGE CLASS ACS */
/* LOGIC DURING AN EMERGENCY SITUATION SO DATA THAT NORMALLY */
/* WOULD BE MANAGED BY SMS CAN BE ALLOCATED OUTSIDE OF SMS */
FILTLIST &SPECIAL_USERS INCLUDE (storage admin. and selected ops)
```

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Storage Class ACS Code ...

```
WHEN (&USER EQ &SPECIAL_USERS
AND &STORCLAS EQ &SCNONSMS)
DO
SET &STORCLAS = &C
EXIT
END /* END FOR DO */
WHEN (&USER EQ &SPECIAL_USERS
AND &STORCLAS NE &C)
DO
SET &STORCLAS = &STORCLAS
EXIT
END /* END FOR DO */
FILTLIST &BAD_CACHE_DSN INCLUDE (list of dsn with bad cache hit use)
WHEN (&DSN EQ &BAD_CACHE_DSN)
DO
SET &STORCLAS = &SCSLW
EXIT
END /* END FOR DO */
```

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Storage Class ACS Code ...

```

FILTLIST &VALID_JCL_STORCLAS INCLUDE (&SCSLOW)
WHEN (&STORCLAS EQ &VALID_JCL_STORCLAS)
DO
SET &STORCLAS = &STORCLAS
EXIT
END /* END DO */

/* LOGIC IF VIO IS TO BE USED */
/* SORT WORK DATA SETS SHOULD NOT BE IN VIO DUE TO */
/* PERFORMANCE CONSIDERATIONS */
/* THE SORT WORK DATA SETS ARE IDENTIFIED AND ASSIGNED */
/* TO STORCLAS=NONVIO, THIS IS A SWITCH THAT IS USED IN */
/* THE STORAGE GROUP ACS LOGIC TO ASSIGN THE SORT WORK */
/* DATA SETS TO A STORAGE GROUP OTHER THAN VIO */
WHEN ((&DSTYPE EQ &TEMP)
AND (&DD EQ SORTWK*))
DO
SET &STORCLAS = &SCNONVIO
EXIT
END /* END FOR DO */

/* ASSIGN TEMPORARY DATA SETS TO THE DESIRED STORCLAS */
WHEN (&DSTYPE EQ &TEMP)
DO
SET &STORCLAS = &SCFAST
EXIT
END /* END FOR DO */

```

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Storage Class ACS Code ...

```

/* ASSIGN REORG TEMP DATA SETS TO THE DESIRED STORCLAS */
FILTLIST &REORG_TO_TEMP_DSN INCLUDE (IMSD.B.INFO*,HSM.*BU.*,SDSP???)
WHEN (&DSN EQ &REORG_TO_TEMP_DSN)
DO
SET &STORCLAS = &SCFAST
EXIT
END /* END FOR DO */

FILTLIST &TEST_DSN INCLUDE (SYSM.M204ENG*,SYSM.M204DEV*,
SYSM.M204TST*,SYSM.M204USR*)
FILTLIST &TEST_HLQ INCLUDE (&QCAT,&QCAT.C,&QCAT.C.C,&QCAT.C.C.C,
list from test catalogs,
list of TSO id with exclusions)
WHEN ((&DSN EQ &TEST_DSN)
OR (&HLQ EQ &TEST_HLQ))
DO
SET &STORCLAS = &SCNORM
EXIT
END /* END FOR DO */

FILTLIST &LIBS_DSN INCLUDE (EDVBL.*,CORBL.*,NVC5001.PROD1.*,
ORC5001.PROD1.*,CC5001.PROD1.*,
WAC0018.PROD1.*,NVC003.PROD1.*)

```

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Storage Class ACS Code ...

```

WHEN (&DSN EQ &LIBS_DSN)
DO
SET &STORCLAS = &SCFAST
EXIT
END /* END FOR DO */

FILTLIST &PROD_DSN INCLUDE (SMGBD.N*,SYS7.CICS*,EPILOG*,
SYS2.EDT*.R0000*.KJ*.EDCM*,
SYS2.EDT*.FITK*.DSL*,M204PROD*,
SYSM.M204ACC*,*RPT*,*VRPT*,
*,*PACK*,*.INFO*,*.PAGE1*,
*,*OIP*)
EXCLUDE (*.*.DATABASE.*,*.*.DATABASE.*,
IRMBP.SDB0013*,SMGBD.NCTL.*,
OPSD.O*,CPCBD.O*)
FILTLIST &PROD_HLQ INCLUDE (list from prod catalogs,&PDXB*,&EDVDB)
EXCLUDE (&IMSD.B,&IMSAV)
WHEN (((&HLQ EQ &PROD_HLQ)
AND (&DSORG NE &VS))
OR (&DSN EQ &PROD_DSN))
DO
SET &STORCLAS = &SCNORM
EXIT
END /* END FOR DO */

/* THE SECOND STORCLAS ASSIGNMENT TEST IS TO SEE IF THE */
/* DATA SET NEEDS A SPECIAL STORCLAS THAT CAN ONLY BE */
/* ASSIGNED BY ACS LOGIC */
/* THIS TEST CAN USE ANY VARIABLES TO IDENTIFY THE EXCEPTION */
/* DATA SET, IN THIS CASE THE DSN IS USED AND A FURTHER */
/* CHECK MAKES SURE THE ALLOCATION USER IS VALID FOR THIS */
/* SPECIAL STORCLAS ASSIGNMENT */

```

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Storage Class ACS Code ...

```

/* THIS TYPE OF LOGIC MUST BE REPEATED FOR EACH DIFFERENT */
/* STORCLAS THAT IS TO BE ASSIGNED BY ACS LOGIC */
FILTLIST &DBA_PLACEMENT_STORCLAS INCLUDE (&SCFAST,&SCNORM)
FILTLIST &DBA_PLACEMENT_USER INCLUDE (data base admin.)
FILTLIST &IDMS_DSN INCLUDE (*.*.DATABASE.*,*.*.DATABASE.*)
FILTLIST &M204_DSN INCLUDE (IRMBP.SDB0013*)
FILTLIST &IMS_DSN INCLUDE (IMSAV.*,IMSD.B.*)
EXCLUDE (IMSD.B.INFO*)
WHEN ((&USER EQ &DBA_PLACEMENT_USER)
AND ((&DSN EQ &IMS_DSN)
OR (&DSN EQ &M204_DSN)
OR (&DSN EQ &IDMS_DSN)
AND (&STORCLAS EQ &DBA_PLACEMENT_STORCLAS))
DO
SET &STORCLAS = &STORCLAS
EXIT
END /* END FOR DO */

FILTLIST &OTHER_ONLINE_DSN INCLUDE (OPSD.O*,CPCBD.O*)
WHEN (((&HLQ EQ &PROD_HLQ)
AND (&DSORG EQ &VS))
OR (&DSN EQ &IMS_DSN)
OR (&DSN EQ &M204_DSN)
OR (&DSN EQ &IDMS_DSN)
OR (&DSN EQ &OTHER_ONLINE_DSN))
DO
SET &STORCLAS = &SCFAST
EXIT
END /* END FOR DO */

```

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Storage Class ACS Code ...

```
/* OTHERWISE FOR SELECT #2 */
/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */

      OTHERWISE                /* FOR SELECT #2 */
                                /* DASD ALLOCATION */

      DO

      SET &STORCLAS = @@

      EXIT

      END                        /* END DO */

/* SELECT FOR DASD ALLOCATION PROCESSING */

      END                        /* END SELECT #2 */

/* INCLUDE TAPE */
      WHEN ...

      SELECT

      ...

      END

/* INCLUDE OPTICAL */
      WHEN ...

      SELECT

      ...

      END
```

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Storage Class ACS Code ...

```
/* OTHERWISE FOR SELECT #1 */

      OTHERWISE                /* FOR SELECT 1 */
                                /* NON STORAGE TYPE */
                                /* ALLOCATION */

      DO

      SET &STORCLAS = @@                /* DO NOT MANAGE */

      EXIT

      END                        /* END DO */

/* END SELECT FOR ALLOCATION TYPE */

      END                        /* END SELECT #1 */

/* END OF STORAGE CLASS PROC */

      END                        /* END PROC */
```

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6 - Large-Sized Manufacturing Company

1. Select DASD data sets for processing, all other data is nonmanaged
2. Prevent sort work data sets from going to VIO
3. Assign all other temporary data sets to be SMS-managed with always cache performance
4. Allow selected storage users to request non-SMS or specific storage classes to be assigned according to JCL input
5. Assign data sets identified as critical for performance to be SMS-managed with always cache performance
6. Assign data sets identified as bad caching data sets to be SMS-managed with never cache performance
7. Assign all permanent work, TSO, test, library, or other data to be SMS-managed with maybe cached performance
8. Assign all other (not work, test, TSO, or library) DASD data to be non-SMS
9. End DASD data set processing

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Storage Class ACS Code

```
/* START OF STORAGE CLASS PROC */
PROC &STORCLAS
/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT /* SELECT #1 */
/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNITS INCLUDE ( &3380c,&3390c,&SYS*c,c,c,
&DISKc,&DATAc,&SORTc,&TESTc,&TSOa,&DPRtc,
&STORc,&LINKc,&USERc,&CPSTdc,&SCRISOc)
WHEN &UNIT EQ &VALID_DASD_UNITS
SELECT /* SELECT #2 */
/* PROCESS DASD */
/* ALLOCATIONS FOR */
/* SMS OR NON SMS */
/* LOGIC IF VIO IS TO BE USED */
/* SORT WORK DATA SETS SHOULD NOT BE IN VIO DUE TO */
/* PERFORMANCE CONSIDERATIONS */
/* THE SORT WORK DATA SETS ARE IDENTIFIED AND ASSIGNED */
/* TO STORCLAS=NONVIO, THIS IS A SWITCH THAT IS USED IN */
/* THE STORAGE GROUP ACS LOGIC TO ASSIGN THE SORT WORK */
/* DATA SETS TO A STORAGE GROUP OTHER THAN VIO */
WHEN ( &DSTYPE EQ &TEMPc
AND &DD EQ SORTWK* )
DO
SET &STORCLAS = &SCNONVIOc
EXIT
```

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Storage Class ACS Code ...

```
END /* END FOR DO */
/* ASSIGN TEMPORARY DATA SETS TO THE DESIRED STORCLAS */
WHEN &DSTYPE EQ &TEMPc
DO
SET &STORCLAS = &SCHIC
EXIT
END /* END FOR DO */
/* DO NOT MANAGE DATA FOR SPECIAL USERS THAT HAVE BEEN GIVEN */
/* AUTHORITY TO USE STORCLAS=NONSMS ON THEIR JCL */
/* THIS ALLOWS SELECTIVE OVERRIDE OF THE STORAGE CLASS ACS */
/* LOGIC DURING AN EMERGENCY SITUATION SO DATA THAT NORMALLY */
/* WOULD BE MANAGED BY SMS CAN BE ALLOCATED OUTSIDE OF SMS */
FILTLIST &SPECIAL_GROUP INCLUDE (list of groups of storage admin.,
system progr. and operations that have special
ability to enter storage classes on JCL)
WHEN (&GROUP EQ &SPECIAL_GROUP
AND &STORCLAS EQ &SCNONSMSc)
DO
SET &STORCLAS = cc
EXIT
```

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Storage Class ACS Code ...

```
END /* END FOR DO */
WHEN (&GROUP EQ &SPECIAL_GROUP
AND &STORCLAS NE cc)
DO
SET &STORCLAS = &STORCLAS
EXIT
END /* END FOR DO */
/* IN SOME CASES THE ACS LOGIC IS EASIER IF THE DATA */
/* SETS THAT ARE MANAGED ARE IDENTIFIED RATHER THAN */
/* USING THE WHEN TEST FOR UNMANAGED DATA */
/* THIS LOGIC THEN INCLUDES A THIRD SELECT */
FILTLIST &LIB_DATA_DSN INCLUDE (*.PAN**,**,UCCT**,**,FOC1**,**,
(mark4**,**,SAS**,**,SCIN**))
FILTLIST &CRITICAL_APPL_DATA_HLQ INCLUDE (&CORPPc)
FILTLIST &TEST_DATA_HLQ INCLUDE (%%2)
FILTLIST &NORMAL_DATA_HLQ INCLUDE (&CSGACc,&CSGRc,c%%1c,c%%3c,
c%%5c,c%%6c,c%%9c,c%%0c,c%%Xc,
c%%Zc,c%%Ecc)
FILTLIST &NORMAL_DATA_UNIT (&DATAc,&LINKc,&DPRtc,&USERc)
FILTLIST &TSO_DATA_HLQ INCLUDE (list of TSO high level qualifiers
in the format of aa%%)

```

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Storage Class ACS Code ...

```

WHEN      (&ANYVOL EQ SCR* OR &UNIT EQ &DISK)
/*SCRATCH DATA */

WHEN      &HLQ EQ &TSO_DATA_HLQ
/*TSO    DATA */

WHEN      &DSN EQ &MANAGED_SYSTEM_DATA_DSN
/*SYSTEM DATA */

WHEN      (&DSN EQ &LIB_DATA_DSN OR
(&DSORG EQ &POC AND &HLQ NE &SYSTEM_PDS_HLQ) )
/* LIB    DATA */

WHEN      &HLQ EQ &TEST_DATA_HLQ
/* TEST  DATA */

WHEN      ( (&UNIT EQ &NORMAL_DATA_UNIT
OR &HLQ EQ &NORMAL_DATA_HLQ)
AND &MAXSIZE LT 25MB )
/* DATA DATA */

WHEN      ( (&UNIT EQ &NORMAL_DATA_UNIT
OR &HLQ EQ &NORMAL_DATA_HLQ)
AND &MAXSIZE GE 25MB )
/* LARGE DATA */

SELECT          /* SELECT #3 */
/* ASSIGN STORCLAS */
/* FOR MANAGED DATA*/

```

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Storage Class ACS Code ...

```

/* THE SECOND STORCLAS ASSIGNMENT TEST IS TO SEE IF THE */
/* DATA SET NEEDS A SPECIAL STORCLAS THAT CAN ONLY BE */
/* ASSIGNED BY ACS LOGIC */

FILTLIST &CRITICAL_PERFORMANCE_DSN INCLUDE (list of names of data sets
that are to receive best performance)

FILTLIST &CACHE_OFFENDERS_DSN INCLUDE (list of names of data set found
to be bad cache candidates)

WHEN &DSN EQ &CRITICAL_PERFORMANCE_DSN
DO
SET &STORCLAS = &SCHIC
EXIT
END /* END FOR DO */

WHEN &DSN EQ &CACHE_OFFENDERS
DO
SET &STORCLAS = &SLOWC
EXIT
END /* END FOR DO */

/* THE THIRD ASSIGNMENT TEST IS TO SEE IF A RACF DEFAULT */
/* VALUE FOR STORCLAS HAS BEEN SPECIFIED AND IF IT HAS TO */
/* ASSIGN IT TO THE DATA SET */

```

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Storage Class ACS Code ...

```

/* OTHERWISE FOR SELECT #3 */

OTHERWISE /* FOR SELECT #3 */
/* DASH ALLOCATION */
/* DEFAULT SERVICE */

DO
SET &STORCLAS = &SCMEDC
EXIT
END /* END DO */

/* END SELECT FOR SMS STORCLAS ASSIGNMENT */

END /* END SELECT #3 */

/* OTHERWISE FOR SELECT #2 */

/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */
/* THEN THE DATA SET WILL RECEIVE THE DEFAULT STORCLAS SERVICE */

```

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Storage Class ACS Code ...

```

OTHERWISE /* FOR SELECT #2 */
/* DASH ALLOCATION */
/* BUT NOT MANAGED */

DO
SET &STORCLAS = &C
EXIT
END /* END DO */

/* SELECT FOR DASH ALLOCATION PROCESSING */

END /* END SELECT #2 */

/* OTHERWISE FOR SELECT #1 */

OTHERWISE /* FOR SELECT 1 */
/* NON DASH TYPE */
/* ALLOCATION */

DO
SET &STORCLAS = &C /* DO NOT MANAGE */
EXIT
END /* END DO */

/* END SELECT FOR ALLOCATION TYPE */

END /* END SELECT #1 */

/* END OF STORAGE CLASS PROC */

END /* END PROC */

```

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7 - Medium-Sized Petrochemical Company

1. Select DASD data sets for processing, all other data is nonmanaged
2. Allow selected users to request non-SMS to be assigned according to JCL input
3. Prevent sort work data sets from going to VIO
4. Assign all other temporary data sets to be SMS-managed with maybe cache performance
5. Allow selected users to request specific storage classes to be assigned according to JCL input
6. Assign data sets identified as critical for performance or libraries to be SMS-managed with always cache performance
7. Assign all other DASD data except system data sets to be SMS-managed with maybe cached performance
8. Assign system DASD data to be non-SMS
9. End DASD data set processing

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Storage Class ACS Code

```
/* START OF STORAGE CLASS PROC */
PROC &STORCLAS
/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT /* SELECT #1 */
/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNIT INCLUDE ( c3380c,c3390c,SYs*,c,c,
cTSODAc,cDISKc,c3940c)
WHEN (&UNIT EQ &VALID_DASD_UNIT)
SELECT /* SELECT #2 */
/* PROCESS DASD */
/* ALLOCATIONS FOR */
/* SMS OR NON SMS */
/* DO NOT MANAGE DATA FOR SPECIAL USERS THAT HAVE BEEN GIVEN */
/* AUTHORITY TO USE STORCLAS=SNONSMS ON THEIR JCL */
/* THIS ALLOWS SELECTIVE OVERRIDE OF THE STORAGE CLASS ACS */
/* LOGIC DURING AN EMERGENCY SITUATION SO DATA THAT NORMALLY */
/* WOULD BE MANAGED BY SMS CAN BE ALLOCATED OUTSIDE OF SMS */
FILTLIST &SPECIAL_GROUP INCLUDE (cLAs1c,dATABASE ADMIN,PROD CONTROL)
WHEN (&GROUP EQ &SPECIAL_GROUP
AND &STORCLAS EQ cSNONSMSc)
DO
SET &STORCLAS = cC
EXIT
```

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Storage Class ACS Code ...

```
END /* END FOR DO */
/* LOGIC IF VIO IS TO BE USED */
/* SORT WORK DATA SETS SHOULD NOT BE IN VIO DUE TO */
/* PERFORMANCE CONSIDERATIONS */
/* THE SORT WORK DATA SETS ARE IDENTIFIED AND ASSIGNED */
/* TO STORCLAS=SNONVIO, THIS IS A SWITCH THAT IS USED IN */
/* THE STORAGE GROUP ACS LOGIC TO ASSIGN THE SORT WORK */
/* DATA SETS TO A STORAGE GROUP OTHER THAN VIO */
WHEN (( &DSTYPE EQ cTEMPc
AND &DD EQ SORTWK*))
DO
SET &STORCLAS = cSNONVIOc
EXIT
END /* END FOR DO */
/* ASSIGN TEMPORARY DATA SETS TO THE DESIRED STORCLAS */
WHEN (&DSTYPE EQ cTEMPc
OR &LLQ EQ cTEMPc)
DO
SET &STORCLAS = cSSTDc
EXIT
END /* END FOR DO */
/* SOME DATA SETS WILL NEVER BE SMS MANAGED AND */
/* OTHER DATA SETS WILL NOT BE MANAGED INITIALLY */
```

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Storage Class ACS Code ...

```
/* THESE DATA SETS ARE IDENTIFIED (USUALLY BY DSN */
/* AND ASSIGNED STORCLAS OF NULL */
FILTLIST &NOT_YET_MANAGED_HLQ INCLUDE (SYs%,OTHERS)
WHEN (&DSN EQ &NOT_YET_MANAGED_HLQ)
DO
SET &STORCLAS = cC
EXIT
END /* END FOR DO */
/* FOR DATA THAT IS TO BE SMS MANAGED THE FIRST */
/* ASSIGNMENT TEST IS TO SEE IF THERE IS A VALID */
/* STORCLAS ON THE JCL (OR FROM DFHSM ON RECALL OR */
/* RECOVERY), IF THERE IS WE WILL ASSIGN THAT JCL */
/* PROVIDED STORCLAS TO THE DATA SET AND HAVE RACF */
/* PROVIDE ANY NECESSARY SECURITY CONTROL */
FILTLIST &VALID_JCL_STORCLAS INCLUDE (cSSTDc,cSLIMITc)
WHEN (&STORCLAS EQ &VALID_JCL_STORCLAS)
DO
SET &STORCLAS = &STORCLAS
EXIT
END /* END FOR DO */
FILTLIST &AUTH_ANY_STORCLAS_USER INCLUDE (USERIDS)
FILTLIST &AUTH_ANY_STORCLAS_GROUP INCLUDE (cLAs1c,OTHERS)
```

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Storage Class ACS Code ...

```
WHEN ( &STORCLAS NE &␣
AND ( &USER EQ &AUTH_ANY_STORCLAS_USER
OR &GROUP EQ &AUTH_ANY_STORCLAS_GROUP ) )
DO
    SET &STORCLAS = &STORCLAS
EXIT
END /* END FOR DO */
/* ADD LOGIC HERE FOR PDS AND CRITICAL PERFORMANCE DATA */
FILTLIST &CRITICAL_DSN INCLUDE (␣ list of dsn ␣)
WHEN ( &dsn EQ &CRITICAL_DSN )
DO
    SET &STORCLAS = SPREFER
EXIT
END /* END FOR DO */
/* OTHERWISE FOR SELECT #2 */
/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */
/* THEN THE DATA SET WILL RECEIVE THE DEFAULT STORCLAS SERVICE */
OTHERWISE /* FOR SELECT #2 */
/* TAPE ALLOCATION */
DO
    SET &STORCLAS = &SSTD␣
```

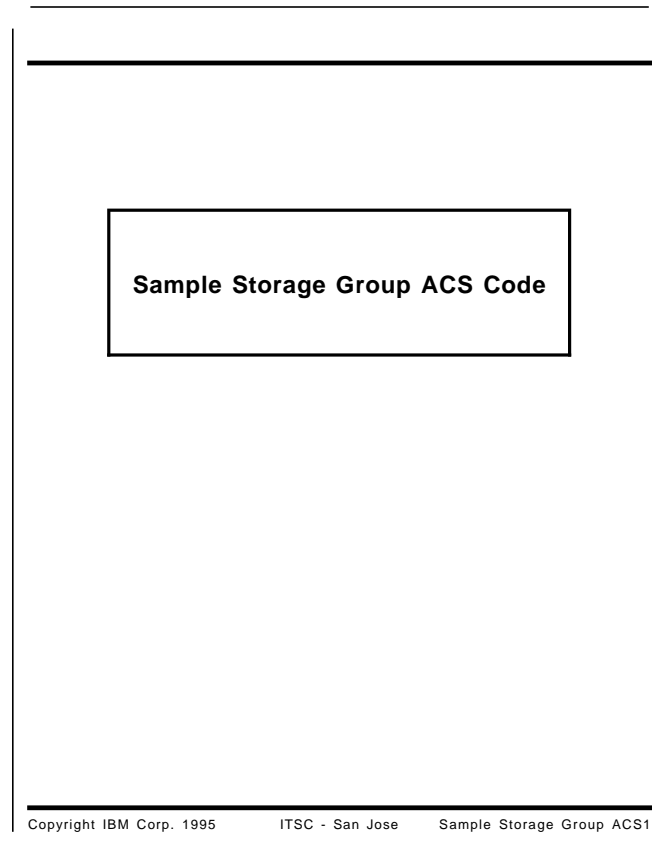
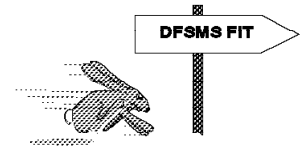
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Storage Class ACS Code ...

```
EXIT
END /* END DO */
/* SELECT FOR DASD ALLOCATION PROCESSING */
END /* END SELECT #2 */
/* OTHERWISE FOR SELECT #1 */
OTHERWISE /* FOR SELECT 1 */
/* NON DASD TYPE */
/* ALLOCATION */
DO
    SET &STORCLAS = &␣ /* DO NOT MANAGE */
EXIT
END /* END DO */
/* END SELECT FOR ALLOCATION TYPE */
END /* END SELECT #1 */
/* END OF STORAGE CLASS PROC */
END /* END PROC */
```

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Chapter 6. Sample Storage Group ACS Coding



This chapter shows the storage group ACS results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 7 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand storage group ACS coding and the information in this chapter.

The first foil for each installation summarizes the installation's storage group ACS coding considerations. Be sure to consider the ACS code for planning, but do not use it without tailoring and testing it to fit your specific environment.

ACS source is not provided for the following three installations:

- Large-sized transportation company
- Medium-sized retail company
- Large-sized bank.

1 - Small-Sized Government

1. Select SMS-managed DASD data sets for processing
2. Assign sort work temporary data sets to the work pool
3. Assign all other temporary data sets to either the work or VIO pool depending on data set size
4. Assign any other SMS-managed data sets to the work pool
5. End DASD data set processing

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Storage Group ASC Routine

```
/* START OF STORAGE GROUP PROC */
PROC &STORGRP
/* SELECT DATA SETS TO GO INTO DIFFERENT STORAGE GROUPS */
SELECT                                /* SELECT #1 */

/* USE THE SWITCH OF STORCLAS=NONVIO THAT WAS SET IN */
/* THE STORCLAS ACS ROUTINE TO IDENTIFY SORTWORK DATA */
/* SETS THAT SHOULD NOT BE PLACED IN VIO AND ASSIGN */
/* THEM TO A STORAGE GROUP */

    WHEN ( &STORCLAS EQ &SNONVIO )
    DO
        SET &STORGRP = &GWORK
        EXIT
    END                                /* END DO */

/* ASSIGN OTHER TEMPORARY DATA SETS TO VIO OR A NORMAL */
/* STORAGE GROUP BASED UPON THE SIZE PARAMETER OF THE VIO */
/* STORAGE GROUP DEFINITION (DFSMS DOES THE SIZE TESTING) */

    WHEN ( &DSTYPE EQ &TEMP )
    DO
        SET &STORGRP = &GVIO,&GWORK
        EXIT
    END                                /* END DO */

/* OTHERWISE FOR SELECT #1 */
```

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Storage Group ASC Routine ...

```
/* ALL DATA SETS SHOULD BE ASSIGNED TO A STORGRP BUT */
/* IF THAT IS NOT DONE ANY UNASSIGNED DATA SET WILL GO */
/* INTO THE PRIMARY STORAGE GROUP */

    OTHERWISE                            /* FOR SELECT #1 TO */
                                        /* ASSIGN STORGRP */

    DO
        SET &STORGRP = &GWORK
        EXIT
    END                                /* END DO */

/* END SELECT FOR STORGRP ASSIGNMENT */
END                                    /* END SELECT #1 */

/* END OF STORAGE GROUP PROC */
END                                    /* END PROC */
```

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2 - Small-Sized Bank

1. Select SMS-managed DASD data sets for processing
2. Assign all test storage groups if the storage class uses GUARANTEED SPACE and the data set is a test data set
3. Assign all storage groups if the storage class uses GUARANTEED SPACE and JCL request is by the storage administrator
4. Assign all temporary data sets to the work pool
5. Assign all test data sets to the test pool
6. Assign any other data to the test pool
7. End DASD data set processing

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Storage Group ACS Code

```
/* PROC START UP */
PROC &STORGRP
  SELECT
/* DEFINE FILTLIST FOR JCL STORAGE CLASS WITH GUARANTEED SPACE */
FILTLIST &TEST_SYSTEM_GUARANTEED_SPACE_DATA_HLQ INCLUDE ( &SYST*, &SYSM*,
&SYSE*, &SYSF*, &SYSY*, &SYSZ* )
  WHEN ( &HLQ EQ &TEST_SYSTEM_GUARANTEED_SPACE_DATA_HLQ AND
&STORCLAS EQ &GUARANTEED_SPACE_STORCLAS )
  DO
    SET &STORGRP = &TEST80*, &TEST90*
  EXIT
END
```

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Storage Group ACS Code ...

```
/* DEFINE FILTLIST FOR ALL STORAGE CLASS WITH GUARANTEED SPACE */
/* ALLOW STORAGE ADMINISTRATOR TO ALLOCATE ON EVERY POSSIBLE VOLUME */
FILTLIST &GUARANTEED_SPACE_STORCLAS INCLUDE ( &NEVERGS*,
&MAYBEGS*, &ALWAYSQS* )
  WHEN &STORCLAS EQ &GUARANTEED_SPACE_STORCLAS
  DO
    SET &STORGRP = &TEST80*, &TEST90*, &TEMP80*, &TEMP90*,
&SYS80*, &SYS90*, &SYSGS80*, &SYSGS90*,
  EXIT
  END
/* ASSIGN TEMPORARY DATA SETS TO VIO AND OTHER STORAGE GROUP */
  WHEN ( &DSTYPE EQ &TEMP* )
  DO
    SET &STORGRP = &TEMP80*, &TEMP90*
  EXIT
  END
```

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Storage Group ACS Code ...

```
/* ASSIGN DATA BASED ON STORAGE CLASS */
FILTLIST &TEST_STORGRP_DATA_HLQ INCLUDE ( &SYSY*, &SYSE*, &SYSF*, &SYSG*,
&SYSM*, &SYSZ*, &YSO*, &SYSQ*, &SYSS*, &SYST*,
&***T*, &***Q* )
  WHEN ( &HLQ EQ &TEST_STORGRP_DATA_HLQ OR APPLIC EQ &SMSTSO* )
  DO
    SET &STORGRP = &TEST80*, &TEST90*
  EXIT
  END
/* ASSIGN ALL OTHER DATA SETS TO THE SOME STORAGE GROUP */
  OTHERWISE
  DO
    SET &STORGRP = &TEST80*, &TEST90*
  EXIT
  END
  END
```

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3 - Small-Sized Utility

1. Select SMS-managed DASD data sets for processing
2. Assign all test storage groups if the storage class uses GUARANTEED SPACE
3. Assign sort work temporary data sets to the work pool
4. Assign all other temporary data sets to the work or VIO pool
5. Assign all TCP/IP data sets to the common pool
6. Assign all TSO data sets to the common pool
7. Assign any other data, including all test data sets, to the common pool
8. End DASD data set processing

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Storage Group ACS Code

```
/* START OF STORAGE GROUP PROC */
PROC &STORGRP

/* SELECT DATA SETS TO GO INTO DIFFERENT STORAGE GROUPS */
SELECT                               /* SELECT #1 */

/* DEFINE FILTLIST FOR ALL STORAGE CLASSES WITH GUARANTEED SPACE */
/* AND THEN ASSIGN ANY DATA SET WITH A GUARANTEED SPACE STORAGE */
/* CLASS TO ALL STORAGE GROUPS AND THUS ALL VOLUMES TO */
/* ALLOW STORAGE ADMINISTRATOR TO ALLOCATE ON EVERY POSSIBLE VOLUME */
FILTLIST &GUARANTEED_SPACE_STORCLAS INCLUDE (&SLOWGS,
&SCMEDGS,&SCHIGHGS)

WHEN &STORCLAS EQ &GUARANTEED_SPACE_STORCLAS

DO

SET &STORGRP = &SGCOMMON,&SGLIBS
/* GUARANTEED SPACE NOT ALLOWED ON WORK POOL */

EXIT

END                               /* END DO */

/* USE THE SWITCH OF STORCLAS=NONVIO THAT WAS SET IN */
/* THE STORCLAS ACS ROUTINE TO IDENTIFY SORTWORK DATA */
/* SETS THAT SHOULD NOT BE PLACED IN VIO AND ASSIGN */
/* THEM TO A STORAGE GROUP */

WHEN ( &STORCLAS EQ &SCNONVIO )

DO

SET &STORGRP = &SGWORK

EXIT
```

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Storage Group ACS Code ...

```
END                               /* END DO */

/* ASSIGN OTHER TEMPORARY DATA SETS TO VIO OR A NORMAL */
/* STORAGE GROUP BASED UPON THE SIZE PARAMETER OF THE VIO */
/* STORAGE GROUP DEFINITION (DFSMS DOES THE SIZE TESTING) */
WHEN ( &DSTYPE EQ &TEMP )

DO

SET &STORGRP = &SGVIO,&SGWORK

EXIT

END                               /* END DO */

/* THIS IS THE MAIN STORGRP ASSIGNMENT TEST AND PUTS */
/* EACH DATA SET INTO ITS DESIRED STORAGE GROUP */
WHEN &UNIT EQ &TCPDPA

DO

SET &STORGRP = &SGCOMMON
```

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Storage Group ACS Code ...

```
EXIT

END                               /* END DO */

WHEN ( &HLQ EQ &USER OR &UNIT EQ &TSODA )

DO

SET &STORGRP = &SGCOMMON

EXIT

END                               /* END DO */

/* OTHERWISE FOR SELECT #1 */
/* ALL DATA SETS SHOULD BE ASSIGNED TO A STORGRP BUT */
/* IF THAT IS NOT DONE ANY UNASSIGNED DATA SET WILL GO */
/* INTO THE PRIMARY STORAGE GROUP */

OTHERWISE                               /* FOR SELECT #1 TO */
/* ASSIGN STORGRP */

DO

SET &STORGRP = &SGCOMMON

EXIT

END                               /* END DO */

/* END SELECT FOR STORGRP ASSIGNMENT */

END                               /* END SELECT #1 */

/* END OF STORAGE GROUP PROC */

END                               /* END SELECT #1 */
```

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5 - Large-Sized Bank

1. Select SMS-managed DASD data sets for processing
2. Assign all test storage groups if the storage class uses GUARANTEED SPACE
3. Assign sort work temporary data sets to the work pool
4. Assign all other temporary data sets to the work or VIO pool
5. Assign all work permanent data sets to the work pool
6. Assign all test data sets to the test pool
7. Assign normal-sized production data sets to the production pool
8. Assign large-sized storage production data sets to the large pool
9. Assign all online databases to the online pool
10. Assign all production data sets to the production pool
11. Assign any other data to the test pool
12. End DASD data set processing

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Storage Group ACS Code

```
/* START OF STORAGE GROUP PROC */
PROC &STORGRP
/* SELECT ALLOCATION TYPE BY DEVICE TO DETERMINE IF SMS MANAGED */
SELECT /* SELECT #1 */

/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNITS INCLUDE ( c3380c,c3390c,SYS*,c,c,
and other valid dasd esoterics)
FILTLIST &VALID_OPTICAL_ACSENVIR INCLUDE (cSTORE*,cCHANGE*,cTRANS*)
WHEN ((&UNIT EQ &VALID_DASD_UNITS)
AND (ACSENVIR NE &VALID_OPTICAL_ACSENVIR))
SELECT /* SELECT #2 */
/* PROCESS DASD */
/* ALLOCATIONS FOR */
/* SMS OR NON SMS */

/* DEFINE FILTLIST FOR ALL STORAGE CLASSES WITH GUARANTEED SPACE */
/* AND THEN ASSIGN ANY DATA SET WITH A GUARANTEED SPACE STORAGE */
/* CLASS TO ALL STORAGE GROUPS AND THUS ALL VOLUMES TO */
/* ALLOW STORAGE ADMINISTRATOR TO ALLOCATE ON EVERY POSSIBLE VOLUME */
FILTLIST &GUARANTEED_SPACE_STORCLAS INCLUDE (cSCFASTGS*,cSCNORMGS*)
WHEN (&STORCLAS EQ &GUARANTEED_SPACE_STORCLAS)
DO
SET &STORGRP = all storage groups
EXIT
END /* END FOR DO */
```

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Storage Group ACS Code ...

```
/* USE THE SWITCH OF STORACLAS SCNONVIO THAT WAS SET IN */
/* THE STORACLAS ACS ROUTINE TO IDENTIFY SORTWORK DATA */
/* SETS THAT SHOULD NOT BE PLACED IN VIO AND ASSIGN */
/* THEM TO A STORAGE GROUP */
WHEN (&STORCLAS EQ cSCNONVIO*)
DO
SET &STORGRP = cWORK90*
EXIT
END /* END FOR DO */

/* ASSIGN OTHER TEMPORARY DATA SETS TO VIO OR A NORMAL */
/* STORAGE GROUP BASED UPON THE SIZE PARAMETER OF THE */
/* VIO STORAGE GROUP DEFINITION (SMS DOES THE SIZE TESTING) */
WHEN (&DSTYPE EQ cTEMP*)
DO
SET &STORGRP = cWORK90*,cVIOSYS*
EXIT
END /* END FOR DO */

FILTLIST &REORG_TO_TEMP_DSN INCLUDE (IMSDB.INFO*,*,HSM.*BU.*,SDSP???)
WHEN (&DSN EQ &REORG_TO_TEMP_DSN)
DO
SET &STORGRP = cWORK90*
EXIT
END /* END FOR DO */
```

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Storage Group ACS Code ...

```
FILTLIST &TEST_DSN INCLUDE (SYSM.M204ENG*.**,SYSM.M204DEV*.**,
SYSM.M204TST*.**,SYSM.M204USR*.**)
FILTLIST &TEST_HLQ INCLUDE (c****Q*,c****T*,c****U*,c****S*,c****B*,
list from test catalogs,
list of TSO id with exclusions)
WHEN ((&DSN EQ &TEST_DSN)
OR (&HLQ EQ &TEST_HLQ))
DO
SET &STORGRP = cTEST80*,cTEST90*
EXIT
END /* END FOR DO */
```

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Storage Group ACS Code ...

```
FILTLIST &LIBS_DSN INCLUDE (EDVEL.**_CORBL.**_NWC5001.PROD1.**,  
ORC5001.PROD1.**_COC5001.PROD1.**,  
WAC0018.PROD1.**_NVC003.PROD1.**)  
  
FILTLIST &PROD_DSN INCLUDE (SMGBD.N*.**_SYS7.CICS*.**_EPILQ*.**,  
SYS2.BDT*_R00000*_KJ*_BDCM*.**,  
SYS2.BDT*_FITX*_DSL*.**_M204PROD*.**,  
SYSM.M204ACC*.**_RPT*.**_VRPT*.**,  
*.*.PACK*.**_*.INFO*.**_*.PAGE1*.**,  
*.*.OIP*.**)  
  
EXCLUDE (*.*.DATABASE.**_*.**_*.DATABASE.**,  
IRMBP.SDB0013*.**_SMGBD.NCTL.**,  
OFSBD.O*.**_CPCBD.O*.**)  
  
FILTLIST &PROD_HLQ INCLUDE (list from prod catalogs,CPDXBT*,CPEDVBC)  
EXCLUDE (CIMSDB*,CIMSVA*)  
  
WHEN (((&HLQ EQ &PROD_HLQ)  
AND (&DSORG NE C'VS'))  
OR (&DSN EQ &PROD_DSN)  
OR (&DSN EQ &LIBS_DSN))  
AND (&SIZE LT 70 MB))  
  
DO  
SET &STORGRP = CP'PROD80SC,CP'PROD90SC  
EXIT  
END /* END FOR DO */  
  
WHEN (((&HLQ EQ &PROD_HLQ)  
AND (&DSORG NE C'VS'))  
OR (&DSN EQ &PROD_DSN)  
OR (&DSN EQ &LIBS_DSN))  
AND (&SIZE GE 70 MB))  
  
DO  
SET &STORGRP = CP'PROD90LC  
EXIT  
END /* END FOR DO */
```

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Storage Group ACS Code ...

```
FILTLIST &IDMS_DSN INCLUDE (*.*.DATABASE.**_*.**_*.DATABASE.**)  
  
FILTLIST &M204_DSN INCLUDE (IRMBP.SDB0013*.**)  
  
FILTLIST &IMS_DSN INCLUDE (IMSVA**.IMSDB.**)  
EXCLUDE (IMSDB.INFO*.**)  
  
FILTLIST &OTHER_ONLINE_DSN INCLUDE (OFSBD.O*.**_CPCBD.O*.**)  
  
WHEN (((&HLQ EQ &PROD_HLQ)  
AND (&DSORG EQ C'VS'))  
OR (&DSN EQ &IMS_DSN)  
OR (&DSN EQ &M204_DSN)  
OR (&DSN EQ &IDMS_DSN)  
OR (&DSN EQ &OTHER_ONLINE_DSN))  
  
DO  
SET &STORGRP = C'ONL80C,C'ONL90C  
EXIT  
END /* END FOR DO */
```

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Storage Group ACS Code ...

```
/* OTHERWISE FOR SELECT #2 */  
  
/* IF A STORCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */  
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */  
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */  
  
OTHERWISE /* FOR SELECT #2 */  
/* DASD ALLOCATION */  
  
DO  
SET &STORGRP = C'TEST80C,C'TEST90C  
EXIT  
END /* END DO */  
  
/* SELECT FOR DASD ALLOCATION PROCESSING */  
  
END /* END SELECT #2 */
```

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Storage Group ACS Code ...

```
/* OTHERWISE FOR SELECT #1 */  
  
OTHERWISE /* FOR SELECT #1 */  
/* NON STORAGE TYPE */  
/* ALLOCATION */  
  
DO  
SET &STORGRP = C'TEST80C,C'TEST90C  
EXIT  
END /* END DO */  
  
/* END SELECT FOR ALLOCATION TYPE */  
  
END /* END SELECT #1 */  
  
/* END OF STORAGE GROUP PROC */  
  
END /* END PROC */
```

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6 - Large-Sized Manufacturing Company

1. Select SMS-managed DASD data sets for processing
2. Assign all test storage groups if the storage class uses GUARANTEED SPACE
3. Assign sort work temporary data sets to the work pool
4. Assign all other temporary data sets to the work or VIO pool
5. Assign all work permanent data sets to the work pool
6. Assign all normal-sized TSO and other data sets to the small pool
7. Assign all large-sized TSO and other data sets to the large pool
8. End DASD data set processing

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Storage Group ACS Code

```
/* START OF STORAGE GROUP PROC */
PROC &STORGRP
/* SELECT DATA SETS TO GO INTO DIFFERENT STORAGE GROUPS */
SELECT /* SELECT #1 */
/* DEFINE FILTLIST FOR ALL STORAGE CLASSES WITH GUARANTEED SPACE */
/* AND THEN ASSIGN ANY DATA SET WITH A GUARANTEED SPACE STORAGE */
/* CLASS TO THE APPROPRIATE STORAGE GROUPS AND TO */
/* ALLOW STORAGE ADMINISTRATORS TO ALLOCATE ON EVERY POSSIBLE VOLUME */
FILTLIST &GUARANTEED_SPACE_STORCLAS INCLUDE (SCSPLOW,
SCSPMED, SCSPHI)
WHEN (&STORCLAS EQ &GUARANTEED_SPACE_STORCLAS
AND &GROUP EQ cdba)
DO
SET &STORGRP = csgdba, csgdbars
EXIT
END /* END DO */
```

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Storage Group ACS Code ...

```
/* USE THE SWITCH OF STORCLAS=NONVIO THAT WAS SET IN */
/* THE STORCLAS ACS ROUTINE TO IDENTIFY SORTWORK DATA */
/* SETS THAT SHOULD NOT BE PLACED IN VIO AND ASSIGN */
/* THEM TO A STORAGE GROUP */
WHEN &STORCLAS EQ cscnonvio
DO
SET &STORGRP = csgwork
EXIT
END /* END DO */
/* ASSIGN OTHER TEMPORARY DATA SETS TO VIO OR A NORMAL */
/* STORAGE GROUP BASED UPON THE SIZE PARAMETER OF THE VIO */
/* STORAGE GROUP DEFINITION (DPSMS DOES THE SIZE TESTING) */
WHEN &DSTYPE EQ ctemp
DO
SET &STORGRP = csgvio, csgwork
```

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Storage Group ACS Code ...

```
EXIT
END /* END DO */
/* THIS IS THE MAIN STORGRP ASSIGNMENT TEST AND PUTS */
/* EACH DATA SET INTO ITS DESIRED STORAGE GROUP
WHEN &MAXSIZE GT 25MB
DO
SET &STORGRP = csglarge
EXIT
END /* END DO */
WHEN &MAXSIZE LE 25MB
DO
SET &STORGRP = csgsmall
EXIT
```

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Storage Group ACS Code ...

```
END                                /* END DO      */
/* OTHERWISE FOR SELECT #1 */
/* ALL DATA SETS SHOULD BE ASSIGNED TO A STORGRP BUT */
/* IF THAT IS NOT DONE ANY UNASSIGNED DATA SET WILL GO */
/* INTO THE PRIMARY STORAGE GROUP */
      OTHERWISE                      /* FOR SELECT #1 TO*/
                                      /* ASSIGN STORGRP  */
/* END SELECT FOR STORGRP ASSIGNMENT */
      END                            /* END SELECT #1  */
/* END OF STORAGE GROUP PROC */
END                                /* END SELECT #1  */
```

7 - Medium-Sized Petrochemical Company

1. Select SMS-managed DASD data sets for processing
2. Assign all test storage groups if the storage class uses GUARANTEED SPACE
3. Assign sort work temporary data sets to the work pool
4. Assign all other temporary data sets to the work or VIO pool
5. Assign all work permanent data sets to the work pool
6. Assign short life TCP/IP data sets to the work pool
7. Assign normal life TCP/IP data sets to the primary pool
8. Assign all TSO data sets to the primary pool
9. Assign all test data sets to the primary pool
10. Assign all batch production data sets to the primary pool
11. Assign all test databases to the test online pool
12. Assign all other data sets to the primary pool
13. End DASD data set processing

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Storage Group ACS Code

```
/* START OF STORAGE GROUP PROC */
PROC &STORGRP
/* SELECT DATA SETS TO GO INTO DIFFERENT STORAGE GROUPS */
SELECT /* SELECT #1 */
/* DEFINE FILTLIST FOR ALL STORAGE CLASSES WITH GUARANTEED SPACE */
/* AND THEN ASSIGN ANY DATA SET WITH A GUARANTEED SPACE STORAGE */
/* CLASS TO ALL STORAGE GROUPS AND THUS ALL VOLUMES TO */
/* ALLOW STORAGE ADMINISTRATOR TO ALLOCATE ON EVERY POSSIBLE VOLUME */
FILTLIST &GUARANTEED_SPACE_STORCLAS INCLUDE ( &SGSTD, &SGLIMIT,
&SGPREFER )
WHEN &STORCLAS EQ &GUARANTEED_SPACE_STORCLAS
DO
SET &STORGRP = &GWORK8, &GWORK9, &GPRIME8,
&GPRIME9, &GPROD8, &GPROD9, &GDBAT8, &GDBAT9,
&GDBAP8, &GDBAP9
EXIT
END /* END DO */
/* ADD IMAGE PLUS LOGIC HERE */
/* USE THE SWITCH OF STORCLAS=NONVIO THAT WAS SET IN */
/* THE STORCLAS ACS ROUTINE TO IDENTIFY SORTWORK DATA */
/* SETS THAT SHOULD NOT BE PLACED IN VIO AND ASSIGN */
/* THEM TO A STORAGE GROUP */
WHEN ( &STORCLAS EQ &SNONVIO )
DO
SET &STORGRP = &GWORK8, &GWORK9
```

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Storage Group ACS Code ...

```
EXIT
END /* END DO */
/* ASSIGN OTHER TEMPORARY DATA SETS TO VIO OR A NORMAL */
/* STORAGE GROUP BASED UPON THE SIZE PARAMETER OF THE VIO */
/* STORAGE GROUP DEFINITION (DFSMS DOES THE SIZE TESTING) */
WHEN ( &DSTYPE EQ &TEMP )
DO
SET &STORGRP = &GVIO, &GWORK8, &GWORK9
EXIT
END /* END DO */
/* THIS IS THE MAIN STORGRP ASSIGNMENT TEST AND PUTS */
/* EACH DATA SET INTO ITS DESIRED STORAGE GROUP (USUALLY */
/* BASED ON DATA TYPE OR HLQ) */
/* THIS TYPE OF LOGIC MUST BE REPEATED FOR EACH DIFFERENT */
/* STORGRP THAT IS TO BE ASSIGNED BY ACS LOGIC */
FILTLIST &WORK_DATA_LLQ INCLUDE ( &TEMP )
WHEN ( &LLQ EQ &WORK_DATA_LLQ )
DO
SET &STORGRP = &GWORK8, &GWORK9
EXIT
END /* END DO */
```

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Storage Group ACS Code ...

```
FILTLIST &WORK_DATA_HLQ INCLUDE ( HLQ OF TEMPORARY TCP/IP )
WHEN ( &HLQ EQ &WORK_DATA_HLQ )
DO
SET &STORGRP = &GWORK8, &GWORK9
EXIT
END /* END DO */
FILTLIST &TSO_DATA_HLQ INCLUDE ( TSO HLQ LIST )
WHEN ( &HLQ EQ &TSO_DATA_HLQ )
DO
SET &STORGRP = &GPRIME8, &GPRIME9
EXIT
END /* END DO */
FILTLIST &PROD_DATA_HLQ INCLUDE ( PROD HLQ LIST )
WHEN ( &HLQ EQ &PROD_DATA_HLQ )
DO
SET &STORGRP = &GPRIME8, &GPRIME9
EXIT
END /* END DO */
```

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Storage Group ACS Code ...

```
FILTLIST &DB_TEST_DATA_HLQ INCLUDE (IMS, DB2 AND CICS/VSAM TEST HLQS)
FILTLIST &DB_TEST_ANYVOL INCLUDE (IMS TEST VOLUME LIST)
  WHEN ( &HLQ EQ &DB_TEST_DATA_HLQ
        AND &ANYVOL EQ &DB_TEST_ANYVOL )
    DO
      SET &STORGRP = &CDBAT9&
      EXIT
    END /* END DO */
FILTLIST &DB_PROD_DATA_HLQ INCLUDE (IMS, DB2 AND CICS/VSAM PROD HLQS)
FILTLIST &DB_PROD_ANYVOL INCLUDE (IMS PROD VOLUME LIST)
  WHEN ( &HLQ EQ &DB_PROD_DATA_HLQ
        AND &ANYVOL EQ &DB_PROD_ANYVOL )
    DO
      SET &STORGRP = &CDBAP9&
      EXIT
    END /* END DO */
/* OTHERWISE FOR SELECT #1 */
/* ALL DATA SETS SHOULD BE ASSIGNED TO A STORGRP BUT */
/* IF THAT IS NOT DONE ANY UNASSIGNED DATA SET WILL GO */
/* INTO THE PRIMARY STORAGE GROUP */
```

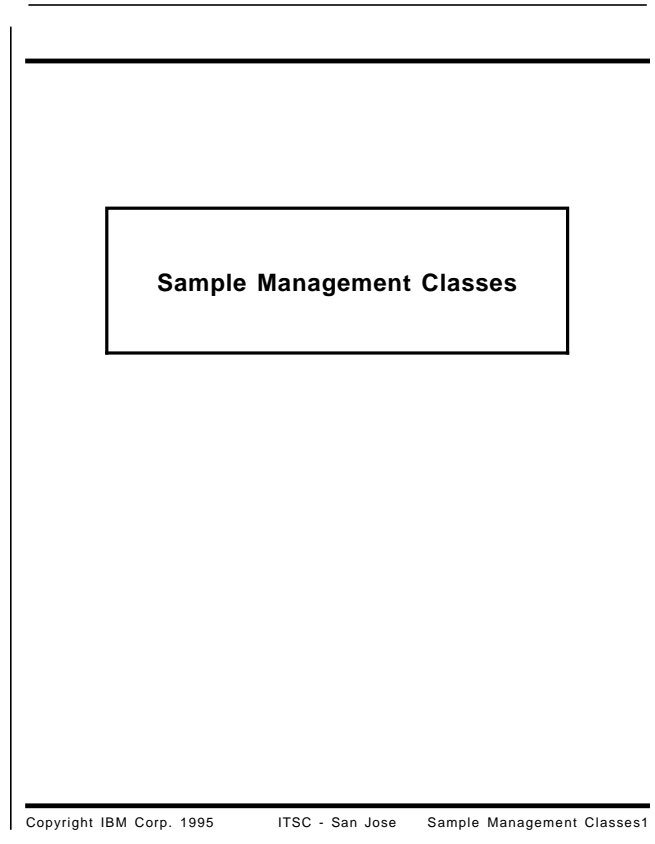
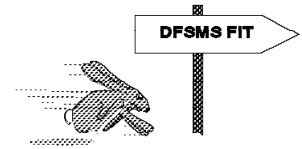
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Storage Group ACS Code ...

```
OTHERWISE /* FOR SELECT #1 TO*/
          /* ASSIGN STORGRP */
  DO
    SET &STORGRP = &GPRIME8&, &GPRIME9&
    EXIT
  END /* END DO */
/* END SELECT FOR STORGRP ASSIGNMENT */
  END /* END SELECT #1 */
/* END OF STORAGE GROUP PROC */
END /* END SELECT #1 */
```

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Chapter 7. Sample Management Class Design



This chapter shows the management class results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 8 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand management class design and the information in this chapter.

The first foil for each installation summarizes the installation's management class considerations for its DFSMS design.

1 - Small-Sized Government

- No management classes needed for the initial implementation

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2 - Small-Sized Bank

- Installation decided to name management classes to include two characters each to identify the service for delete, migration, and backup
- TSO list and log type data were assigned an early deletion, no migration, and no backup service
- All other data (test and TSO) were assigned a late deletion, medium migration, and a few backups service
- All overallocated unused space was conditionally released during the overnight HSM processing cycle
- GDGs were managed with only the current GDS left on primary DASD, and GDSs were expired when they rolled off the GDG
- Both management classes could be assigned from JCL by selected users

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Management Class Design Answers

Data Type	WK	WK	TSO	TSO	TSO	TSO	EXC	EXC
Classification Box	1	2	3	4	5	6	7	8
Data Deletion								
Early Delete			X					
Medium Delete								
Late Delete				X	X	X		
Never Delete								
Data Migration								
Direct to Tape								
Early Migrate								
Medium Migrate				X	X	X		
Late Migrate								
Never Migrate			X					
Backup of Data								
Never Backup			X					
One Version								
Few Versions				X	X	X		
Many Versions								
Concurrent Copy								
Partial Release								
Conditional/Close								
Conditional/Daily				Y	Y	Y		
GDG Action								
1 GDS on Primary				1	1	1		
Many GDSs on L0								
Roll Off Expire				Y	Y	Y		
Management Class Id	n/a	n/a	1	2	2	2	n/a	n/a

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Management Class

- MEDNMNB
- MLDMMFB

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MEDNMNB	Yes	Yes	ACS
MLDMMFB	Yes	Yes	ACS

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MEDNMNB	5			YI	
MLDMMFB	400			YI	17

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MEDNMNB		NONE	1	EXPIRE	
MLDMMFB	35	BOTH	1	EXPIRE	1

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MEDNMNB				
MLDMMFB	2			

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MEDNMNB	NONE	N			
MLDMMFB	BOTH	Y			

3 - Small-Sized Utility

- TSO log and list type data and all TCP/IP data were assigned an early delete, no migrate, and no backup service
- All other TSO data sets were assigned a no delete, medium migrate, and few backups service
- All test data was assigned a no delete, medium migrate, and moderate number of backups service
- All overallocated and unused space was conditionally released at close of the data set
- The installation defined a special JCL selected service for all users of GDGs to place only the current GDS on primary DASD and to expire the GDS when it rolls off the GDG

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Management Class Design Answers

Data Type	WK	TSO	TSO	TCP	TCP	T	T	T	
Classification Box	1	2	3	4	5	6	7	8	
Data Deletion									
Early Delete		X		X	X				
Medium Delete									
Late Delete			X			X	X	X	
Never Delete									
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate			X			X	X	X	
Late Migrate									
Never Migrate		X		X	X				
Backup of Data									
Never Backup		X		X	X				
One Version									
Few Versions			X						
Many Versions						X	X	X	
Concurrent Copy									
Partial Release									
Conditional/Close									
Conditional/Daily		Y	Y	Y	Y	Y	Y	Y	Y
GDG Action									
1 GDS on Primary		1	1	1	1	1	1	1	
Many GDSs on L0									
Roll Off Expire		Y	Y	Y	Y	Y	Y	Y	
Management Class Id	n/a	1	2	1	1	3	3	3	

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Management Class Design Answers ...

Data Type	EXC	EXC	EXC						
Classification Box	9	10	11						
Data Deletion									
Early Delete									
Medium Delete									
Late Delete			X						
Never Delete									
Data Migration									
Direct to Tape			X						
Early Migrate			X						
Medium Migrate									
Late Migrate									
Never Migrate									
Backup of Data									
Never Backup			X						
One Version									
Few Versions									
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close									
Conditional/Daily			Y						
GDG Action									
1 GDS on Primary			1						
Many GDSs on L0									
Roll Off Expire			Y						
Management Class Id	n/a	n/a	4						

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Management Classes

1. MCINTRM
2. MCSTD
3. MCXBCK
4. MCGDGTP

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MCINTRM	No		
MCSTD	No		
MCXBCK	No		
MCGDGTP	Yes	No	

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MCINTRM	5			CI	
MCSTD	NOLIMIT			CI	15
MCXBCK	NOLIMIT			CI	15
MCGDGTP	NOLIMIT			CI	15

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MCINTRM		NONE			
MCSTD	30	BOTH			1
MCXBCK	30	BOTH			1
MCGDGTP	30	BOTH	1	EXPIRE	

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MCINTRM				
MCSTD	2	1	60	1
MCXBCK	4	1	60	1
MCGDGTP				

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MCINTRM	NONE	N			
MCSTD	BOTH	Y			
MCXBCK	BOTH	Y			
MCGDGTP	NONE	N			

4 - Large-Sized Transportation Company

- Online test VSAM data sets were assigned an online test service
- Test JCL and program libraries were assigned a test library service
- TSO data sets used at logon and batch production GDGs requiring all generations on primary were assigned a no migration service
- Work permanent data and TSO list and log type data were assigned a quick delete service
- All other TSO and test data sets were assigned a test service
- All online production data was assigned a no action service

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4 - Large-Sized Transportation Company ...

- Batch production data sets requiring critical performance were assigned an early migration service
- Batch production data sets that are rewritten rather than reallocated were assigned an early migration to tape service
- Batch production backup data sets were assigned to a no backup service
- Batch and online production program and JCL libraries were assigned a production library service
- All other batch production data was assigned a medium migration to tape service
- Authorized users could request management classes using JCL
- All data except online data sets and JCL or program libraries released overallocated space at HSM overnight processing

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Management Class Design Answers

Data Type	T	T	T	T	T	T	T	T	WK	WK
Classification Box	1	2	3	4	5	6	7	8		
Data Deletion										
Early Delete					X					
Medium Delete						X				
Late Delete	X	X								
Never Delete				X						
Data Migration										
Direct to Tape										
Early Migrate						X				
Medium Migrate		X								
Late Migrate	X									
Never Migrate				X	X					
Backup of Data										
Never Backup	X				X					
One Version										
Few Versions		X				X				
Many Versions				X						
Concurrent Copy										
Partial Release										
Conditional/Close				Y	Y					
Conditional/Daily	Y					Y				
GDG Action										
1 GDS on Primary	X	X			X	X				
Many GDSs on L0				X						
Roll Off Expire	X	X		X	X	X				
Management Class Id	1	2	n/a	3	4	5	n/a	n/a		

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Management Class Design Answers ...

Data Type	WK	WK	ONL	ONL	ONL	ONL	ONL
Classification Box	9	10	11	12	13	14	15
Data Deletion							
Early Delete	X	X					
Medium Delete							
Late Delete							
Never Delete			X	X	X	X	X
Data Migration							
Direct to Tape							
Early Migrate							
Medium Migrate							
Late Migrate							
Never Migrate	X	X	X	X	X	X	X
Backup of Data							
Never Backup	X	X	X	X	X	X	X
One Version							
Few Versions							
Many Versions							
Concurrent Copy							
Partial Release							
Conditional/Close	Y	Y					
Conditional/Daily							
GDG Action							
1 GDS on Primary	X	X	X	X	X	X	X
Many GDSs on L0							
Roll Off Expire	X	X	X	X	X	X	X
Management Class Id	4	4	6	6	6	6	6

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Management Class Design Answers ...

Data Type	BAT	BAT	BAT	BAT	BAT	BAT	BAT	EXC	EXC
Classification Box	16	17	18	19	20	21	22	23	24
Data Deletion									
Early Delete									
Medium Delete									
Late Delete									
Never Delete	X	X	X	X	X	X	X		
Data Migration									
Direct to Tape				X					
Early Migrate		X	X						
Medium Migrate	X								
Late Migrate									
Never Migrate					X	X	X		
Backup of Data									
Never Backup				X					
One Version									
Few Versions									
Many Versions	X	X	X		X	X	X		
Concurrent Copy									
Partial Release									
Conditional/Close	Y	Y	Y	Y	Y				
Conditional/Daily									
GDG Action									
1 GDS on Primary	X	X	X	X		X	X		
Many GDSs on L0					X				
Roll Off Expire	X	X	X	X	X	X	X		
Management Class Id	7	8	9	10	3	11	11	n/a	n/a

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Management Classes

1. MCTONL
2. MCTLIB
3. MCNOMIG
4. MCSRCTCH
5. MCT
6. MCNOACT
7. MCPDAY
8. MCPSML
9. MCPLRG
10. MCNOBACK
11. MCPLIB

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MCTONL	Yes	Yes	ACS
MCTLIB	Yes	Yes	ACS
MCNOMIG	Yes	Yes	ACS
MCSRCTCH	Yes	Yes	ACS
MCT	Yes	Yes	ACS
MCNOACT	Yes	Yes	ACS
MCPDAY	Yes	Yes	ACS
MCSML	Yes	Yes	ACS
MCLRG	Yes	Yes	ACS
MCNOBACK	Yes	Yes	ACS
MCPLIB	Yes	Yes	ACS

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MCTONL	400			CI	100
MCTLIB	400			N	35
MCNOMIG	NOLIMIT			CI	
MCSRCTCH	0			CI	
MCT	60			C	3
MCNOACT	NOLIMIT			N	
MCPDAY	NOLIMIT			CI	35
MCPSML	NOLIMIT			CI	4
MCPLRG	NOLIMIT			CI	4
MCNOBACK	NOLIMIT			CI	0
MCPLIB	NOLIMIT			N	

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MCTONL	0	BOTH	1	EXPIRE	
MCTLIB	0	BOTH	1	EXPIRE	1
MCNOMIG		NONE	255	EXPIRE	1
MCSRCTCH		NONE	1	EXPIRE	
MCT	10	BOTH	1	EXPIRE	1
MCNOACT		NONE	1	EXPIRE	
MCPDAY	0	BOTH	2	EXPIRE	1
MCPSML	35	BOTH	2	EXPIRE	1
MCPLRG	0	BOTH	2	EXPIRE	1
MCNOBACK	0	BOTH	1	EXPIRE	
MCPLIB		NONE	1	EXPIRE	1

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MCTONL				
MCTLIB	2			
MCNOMIG	8			
MCSRCTCH				
MCT	2			
MCNOACT				
MCPDAY	8			
MCPSML	8			
MCPLRG	8			
MCNOBACK				
MCPLIB	8			

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MCTONL	NONE	N			
MCTLIB	BOTH	Y			
MCNOMIG	BOTH	Y			
MCSRCTCH	NONE	N			
MCT	BOTH	Y			
MCNOACT	NONE	N			
MCPDAY	BOTH	Y			
MCPSML	BOTH	Y			
MCPLRG	BOTH	Y			
MCNOBACK	NONE	N			
MCPLIB	BOTH	Y			

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5 - Large-Sized Bank

- Online data, including the database reorganizations that are run as temporary data on weekends, were assigned a no action service
- Normal test data was assigned a normal delete, medium migrate, and single backup service
- Large test data sets and those data sets used at TSO logon were assigned a normal delete, short migrate direct to tape, and few backups service
- TSO log and list type data was assigned a fast delete, no migrate, and no backup service
- Production GDGs and large batch production data sets were assigned a normal delete, fast migrate, and a single backup service
- Batch production libraries were assigned a no delete, no migrate, and multiple backups service
- All other batch production data was assigned a normal delete, medium migrate, and few backups service
- Selected data sets were assigned by ACS filters a normal delete, no migration, and a few backups service
- Users were allowed to request by JCL a normal delete, medium migrate, and no backup service

Management Class Design Answers

Data Type	WK	WK	WK	T	T	T	T		
Classification Box	1	2	3	4	5	6	7		
Data Deletion									
Early Delete						X			
Medium Delete									
Late Delete				X	X		X		
Never Delete			X						
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate					X		X		
Late Migrate				X					
Never Migrate			X			X			
Backup of Data									
Never Backup			X			X			
One Version				X					
Few Versions					X		X		
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close				Y	Y	Y	Y		
Conditional/Daily									
GDG Action									
1 GDS on Primary			X	X	X	X	X		
Many GDSs on L0									
Roll Off Expire			X	X	X	X	X		
Management Class Id	n/a	n/a	1	2	3	4	3		

Management Class Design Answers ...

Data Type	BAT	BAT	BAT	BAT	BAT	BAT	ONL	ONL	ONL
Classification Box	8	9	10	11	12	13	14		
Data Deletion									
Early Delete									
Medium Delete									
Late Delete	X	X		X					
Never Delete			X		X	X	X		
Data Migration									
Direct to Tape									
Early Migrate		X		X					
Medium Migrate									
Late Migrate	X								
Never Migrate			X		X	X	X		
Backup of Data									
Never Backup					X	X	X		
One Version		X		X					
Few Versions	X								
Many Versions			X						
Concurrent Copy									
Partial Release									
Conditional/Close		Y		Y					
Conditional/Daily	Y								
GDG Action									
1 GDS on Primary	X	X	X	X	X	X	X		
Many GDSs on L0									
Roll Off Expire	X	X	X	X	X	X	X		
Management Class Id	5	6	7	6	1	1	1		

Management Class Design Answers ...

Data Type	EXC	EXC	EXC	EXC	EXC	EXC	EXC		
Classification Box	15	16	17	18	19	20	21		
Data Deletion									
Early Delete					X				
Medium Delete									
Late Delete			X			X	X		
Never Delete									
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate							X		
Late Migrate									
Never Migrate			X		X	X			
Backup of Data									
Never Backup					X		X		
One Version									
Few Versions			X			X			
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close					Y		Y		
Conditional/Daily			Y			Y			
GDG Action									
1 GDS on Primary					X		X		
Many GDSs on L0			X			X			
Roll Off Expire			X		X	X	X		
Management Class Id	n/a	n/a	8	n/a	3	8	9		

Management Classes

1. MCNOACT
2. MCMEDMIG
3. MCTMIG
4. MCCLEAN
5. MCPMIG
6. MCQIKMIG
7. MCNODEL
8. MCNOMIG
9. MCNOBACK

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MCNOACT	No		
MCMEDMIG	No		
MCTMIG	No		
MCCLEAN	No		
MCPMIG	No		
MCQIKMIG	No		
MCNODEL	No		
MCNOMIG	Yes	Yes	ACS
MCNOBACK	Yes	No	

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MCNOACT	NOLIMIT			N	
MCMEDMIG	400			CI	10
MCTMIG	400			CI	5
MCCLEAN	1			CI	
MCPMIG	400			C	10
MCQIKMIG	400			CI	1
MCNODEL	NOLIMIT			N	
MCNOMIG	400			C	
MCNOBACK	200			CI	5

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MCNOACT		NONE	1	EXPIRE	
MCMEDMIG	100	BOTH	1	EXPIRE	1
MCTMIG	0	BOTH	1	EXPIRE	1
MCCLEAN		NONE	1	EXPIRE	
MCPMIG	35	BOTH	1	EXPIRE	1
MCQIKMIG	17	BOTH	1	EXPIRE	1
MCNODEL		NONE	1	EXPIRE	1
MCNOMIG		NONE	255	EXPIRE	
MCNOBACK	0	BOTH	1	EXPIRE	

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MCNOACT				
MCMEDMIG	1			
MCTMIG	2			
MCCLEAN				
MCPMIG	2			
MCQKMIG	1			
MCNODEL	4			
MCNOMIG	2			
MCNOBACK				

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MCNOACT	NONE	N			
MCMEDMIG	BOTH	Y			
MCTMIG	BOTH	Y			
MCCLEAN	NONE	N			
MCPMIG	BOTH	Y			
MCQKMIG	BOTH	Y			
MCNODEL	BOTH	Y			
MCNOMIG	BOTH	Y			
MCNOBACK	NONE	N			

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6 - Large-Sized Manufacturing Company

- Permanent work data sets were assigned a fast delete, no migrate, and no backup service
- TSO log and list type data was assigned a medium delete, no migrate, and no backup service
- All other TSO data was assigned a no delete, medium migrate, and few backups service
- Program and JCL libraries were assigned a no delete, late migration, and few backups service
- All other data sets were assigned a no delete, early migrate, and few backups service
- The installation did not want to allow any management class to be assigned through JCI requests
- Permanent work data sets released overallocated space at close
- TSO data sets released overallocated space at overnight processing time
- JCL and program libraries were defined not to release overallocated space
- All other data sets were defined to release overallocated and unused space conditionally at close

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Management Class Design Answers

Data Type	SCR	SCR	SCR	TSO	TSO	TSO			
Classification Box	1	2	3	4	5	6			
Data Deletion									
Early Delete			X						
Medium Delete				X					
Late Delete									
Never Delete					X	X			
Data Migration									
Direct to Tape									
Early Migrate					X	X			
Medium Migrate									
Late Migrate									
Never Migrate			X	X					
Backup of Data									
Never Backup			X	X					
One Version									
Few Versions					X	X			
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close					Y	Y			
Conditional/Daily			Y	Y					
GDG Action									
1 GDS on Primary									
Many GDSs on L0			X	X	X	X			
Roll Off Expire			X	X	X	X			
Management Class Id	n/a	n/a	1	2	3	3			

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Management Class Design Answers ...

Data Type	DAT	DAT	DAT	DAT	DAT	DAT	DAT	EXC
Classification Box	7	8	9	10	11	12	13	14
Data Deletion								
Early Delete								
Medium Delete								
Late Delete								
Never Delete	X	X	X	X	X	X	X	
Data Migration								
Direct to Tape								
Early Migrate			X	X	X	X	X	
Medium Migrate								
Late Migrate	X	X						
Never Migrate								
Backup of Data								
Never Backup								
One Version								
Few Versions	X	X	X	X	X	X	X	
Many Versions								
Concurrent Copy								
Partial Release								
Conditional/Close			Y	Y	Y	Y	Y	
Conditional/Daily								
GDG Action								
1 GDS on Primary								
Many GDSs on L0	X	X	X	X	X	X	X	
Roll Off Expire	X	X	X	X	X	X	X	
Management Class Id	4	4	5	5	5	5	5	n/a

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Management Classes

1. MCTEMP
2. MCSHORT
3. MCMEDMIG
4. MCLATMIG
5. MCERLMIG

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MCTEMP	No		
MCSHORT	No		
MCMEDMG	No		
MCLATMIG	No		
MCERLMIG	No		

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MCTEMP	NOLIMIT	1		C	
MCSHORT	7	NOLIMIT		Y	
MCMEDMG	NOLIMIT	NOLIMIT		Y	15
MCLATMIG	NOLIMIT	NOLIMIT		N	45
MCERLMIG	NOLIMIT	NOLIMIT		CI	4

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MCTEMP		NONE			
MCSHORT		CMD	255	EXPIRE	
MCMEDMG		BOTH	255	EXPIRE	0
MCLATMIG		BOTH	255	EXPIRE	0
MCERLMIG		BOTH	255	EXPIRE	0

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MCTEMP				
MCSHORT				
MCMEDMG	3	1	120	NOLIMIT
MCLATMIG	3	1	120	NOLIMIT
MCERLMIG	3	1	120	NOLIMIT

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MCTEMP		N			
MCSHORT		N			
MCMEDMG	BOTH	Y			
MCLATMIG	BOTH	Y			
MCERLMIG	BOTH	Y			

7 - Medium-Sized Petrochemical Company

- Permanent work data sets were assigned a temporary service
- Short term TSO and TCP/IP data sets were assigned a quick delete service
- All other TCP/IP data was assigned a TCP/IP service
- GSAM data sets were assigned a GSAM service
- All other TSO and batch production data were assigned a production service
- All test data sets were assigned a test service
- All online databases were assigned an online service
- TSO data sets requiring extra backups were allowed to be requested to have an extra backup service
- All GDGs were assigned a GDG service
- The installation allowed selected users to request extra backup and GSAM service by JCL
- TSO, GSAM, and online databases were defined not to release overallocated space

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Management Class Design Answers

Data Type	WK	WK	WK	TCP	TCP	TSO	TSO	T	T
Classification Box	1	2	3	4	5	6	7	8	9
Data Deletion									
Early Delete									
Medium Delete									
Late Delete									
Never Delete			X	X	X	X	X	X	X
Data Migration									
Direct to Tape									
Early Migrate			X						
Medium Migrate								X	X
Late Migrate					X		X		
Never Migrate			X		X				
Backup of Data									
Never Backup				X	X	X			/X
One Version			X						
Few Versions							X/	X	X/
Many Versions							/X		
Concurrent Copy									
Partial Release									
Conditional/Close			Y					Y	Y
Conditional/Daily				Y	Y	Y			
GDG Action									
1 GDS on Primary									
Many GDSs on L0									
Roll Off Expire									
Management Class Id	n/a	n/a	1	2	3	2	4/5	6	6/7

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Management Class Design Answers ...

Data Type	T	BAT	BAT	BAT	BAT	ONL	ONL	ONL	ONL
Classification Box	10	11	12	13	14	15	16	17	18
Data Deletion									
Early Delete									
Medium Delete									
Late Delete									
Never Delete	X	X	X	X	X	X	X	X	X
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate	X	X							
Late Migrate			X	X	X	X	X	X	X
Never Migrate									
Backup of Data									
Never Backup		X				X	X	X	X
One Version									
Few Versions	X		X	X	X				
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close	Y								
Conditional/Daily						Y	Y	Y	Y
GDG Action									
1 GDS on Primary									
Many GDSs on L0									
Roll Off Expire									
Management Class Id	6	7	4	4	4	8	8	8	8

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Management Class Design Answers ...

Data Type	ONL	ONL	EXC	EXC	EXC	EXC	EXC
Classification Box	19	20	21	22	23	24	25
Data Deletion							
Early Delete							
Medium Delete							
Late Delete							
Never Delete	X	X	X				
Data Migration							
Direct to Tape							
Early Migrate			X				
Medium Migrate							
Late Migrate	X	X					
Never Migrate							
Backup of Data							
Never Backup	X	X	X				
One Version							
Few Versions							
Many Versions							
Concurrent Copy							
Partial Release							
Conditional/Close							
Conditional/Daily	Y	Y	Y				
GDG Action							
1 GDS on Primary			X				
Many GDSs on L0							
Roll Off Expire			X				
Management Class Id	8	8	9	n/a	n/a	n/a	n/a

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Management Classes

1. MTEMP
2. MTCPBKNW
3. MTCPBK
4. MPROD
5. MPRODXBK
6. MTEST
7. MGSAM
8. MONL
9. MGDG

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MTEMP	No		
MTCPBKNW	No		
MTCPBK	No		
MPROD	No		
MPRODXBK	Yes	Yes	ACS
MTEST	No		
MGSAM	Yes	Yes	ACS
MONL	No		
MGDG	No		

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MTEMP	NOLIMIT	NOLIMIT		CI	1
MTCPBKNW	3	NOLIMIT		N	
MTCPBK	NOLIMIT	NOLIMIT		C	10
MPROD	NOLIMIT	NOLIMIT		N	10
MPRODXBK	NOLIMIT	NOLIMIT		N	10
MTEST	NOLIMIT	NOLIMIT		CI	3
MGSAM	NOLIMIT	NOLIMIT		N	3
MONL	NOLIMIT	NOLIMIT		N	10
MGDG	NOLIMIT	NOLIMIT		C	1

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MTEMP		BOTH			1
MTCPBKNW		NONE			
MTCPBK		BOTH			
MPROD		BOTH			1
MPRODXBK		BOTH			1
MTEST		BOTH			1
MGSAM		BOTH			
MONL		BOTH			
MGDG		BOTH	1	EXPIRE	1

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MTEMP	1	1	NOLIMIT	
MTCPBKNW				
MTCPBK				
MPROD	3	1	NOLIMIT	
MPRODXBK	9	1	NOLIMIT	
MTEST	3	1	NOLIMIT	
MGSAM				
MONL				
MGDG				

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MTEMP	BOTH	Y			
MTCPBKNW		N			
MTCPBK		N			
MPROD	BOTH	Y			
MPRODXBK	BOTH	Y			
MTEST	BOTH	Y			
MGSAM		N			
MONL		N			
MGDG		N			

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8 - Medium-Sized Retail Company

- TSO log and list type data sets were assigned an interim service
- TSO data sets used at logon, online test data, online acceptance data, and online production data were assigned a no migration service
- Batch test, batch acceptance, and all other TSO data sets were assigned a test service
- Batch production data sets were assigned a production service
- GDGs were assigned a GDG service
- DB2 databases were assigned a no action service
- Permanent work data sets were assigned a quick delete service
- All users could assign batch production data sets to be migrated directly to tape through a JCL management class
- Batch production data sets were allowed to be assigned an extra backup service through JCL by selected users
- Online data, DB2 data, and data sets used at TSO logon do not release overallocated space

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Management Class Design Answers

Data Type	T	T	ACC	ACC	PRO	PRO	PRO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Data Deletion									
Early Delete									
Medium Delete									
Late Delete									
Never Delete	X	X	X	X	X	X	X	X	
Data Migration									
Direct to Tape									X
Early Migrate	X		X						
Medium Migrate									
Late Migrate					X			X	
Never Migrate		X		X		X			
Backup of Data									
Never Backup									
One Version									
Few Versions	X	X	X	X	X	X	X		X
Many Versions								X	
Concurrent Copy									
Partial Release									
Conditional/Close									
Conditional/Daily	Y		Y		Y		Y	Y	Y
GDG Action									
1 GDS on Primary	X		X		X			X	X
Many GDSs on L0									
Roll Off Expire	X		X		X			X	X
Management Class Id	1	2	1	2	3	2	n/a	4	5

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Management Class Design Answers ...

Data Type	PRO	PRO	GDG	DB2	DB2	DB2	DB2		
Classification Box	10	11	12	13	14	15	16		
Data Deletion									
Early Delete									
Medium Delete									
Late Delete									
Never Delete			X	X	X	X			
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate			X						
Late Migrate				X	X	X			
Never Migrate									
Backup of Data									
Never Backup				X	X	X			
One Version									
Few Versions			X						
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close									
Conditional/Daily			Y						
GDG Action									
1 GDS on Primary			X						
Many GDSs on L0									
Roll Off Expire			X						
Management Class Id	n/a	n/a	6	7	7	7	n/a		

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Management Class Design Answers ...

Data Type	WK	WK	WK	WK	TSO	TSO	TSO	R	EXC
Classification Box	17	18	19	20	21	22	23	24	25
Data Deletion									
Early Delete			X						
Medium Delete						X			
Late Delete									
Never Delete					X		X	X	
Data Migration									
Direct to Tape									
Early Migrate									
Medium Migrate						X			
Late Migrate									
Never Migrate			X				X		
Backup of Data									
Never Backup			X			X			
One Version									
Few Versions					X		X	X	
Many Versions									
Concurrent Copy									
Partial Release									
Conditional/Close									
Conditional/Daily					Y	Y		Y	
GDG Action									
1 GDS on Primary					X	X		X	
Many GDSs on L0									
Roll Off Expire					X	X		X	
Management Class Id	n/a	n/a	8	n/a	1	9	2	1	n/a

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Management Classes

1. MCTEST
2. MCNOMIG
3. MCPROD
4. MCXBCKUP
5. MCTAPE
6. MCGDG
7. MCNOMGT
8. MCTEMP
9. MCINTERM

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MCTEST	No		
MCNOMIG	No		
MCPROD	No		
MCXBCKUP	Yes	Yes	ACS
MCTAPE	Yes	No	
MCGDG	No		
MCNOMGT	No		
MCTEMP	No		
MCINTERM	No		

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MCTEST	NOLIMIT			Y	4
MCNOMIG	NOLIMIT			N	
MCPROD	NOLIMIT			Y	10
MCXBCKUP	NOLIMIT			Y	10
MCTAPE	NOLIMIT			Y	0
MCGDG	NOLIMIT			Y	7
MCNOMGT	NOLIMIT			N	
MCTEMP	1			Y	
MCINTERM	7			Y	8

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Management Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MCTEST	22		1	EXPIRE	1
MCNOMIG		NONE			1
MCPROD	30		1	EXPIRE	1
MCXBCKUP	30		1	EXPIRE	1
MCTAPE	tape		1	EXPIRE	1
MCGDG	tape		1	EXPIRE	1
MCNOMGT		NONE			
MCTEMP		NONE			
MCINTERM	8		1	EXPIRE	

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Management Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MCTEST	2			
MCNOMIG	2			
MCPROD	2			
MCXBCKUP	6			
MCTAPE	2			
MCGDG	2			
MCNOMGT				
MCTEMP				
MCINTERM				

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Management Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MCTEST	BOTH	Y			
MCNOMIG	BOTH	Y			
MCPROD	BOTH	Y			
MCXBCKUP	BOTH	Y			
MCTAPE	BOTH	Y			
MCGDG	BOTH	Y			
MCNOMGT	NONE	N			
MCTEMP	NONE	N			
MCINTERM	NONE	N			

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9 - Large-Sized Bank

- Test and TSO program and JCL libraries were assigned a medium delete, medium migrate, and few backups service
- Test work data sets and TSO log and list type data sets were assigned a quick delete, no migrate, and no backup service
- All other test and TSO data was assigned a medium delete, early migration, and few backups service
- Production non-JCL and program library PDSs were assigned a late delete, early migration, and many backups service
- Production work data sets were assigned early delete, migrate to tape, and no backup service

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9 - Large-Sized Bank ...

- All other production data sets were assigned late delete, late migrate, and many backups service
- All production JCL and program libraries were assigned late delete, no migration, and many backups service
- All IMS databases were assigned no action service
- Normal disk backup and tape mount reduction data sets were assigned a medium delete, migrate to tape, and no backup service
- Long term disk backup and tape mount reduction data sets were assigned late delete, migrate to tape, and no backup service
- Production data sets were allowed to be assigned an additional early delete, migrate to tape, and single backup service by selected users through JCL management class

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Management Class Design Answers

Data Type	T	T	T	T	TSO	TSO	TSO	PRO	PRO
Classification Box	1	2	3	4	5	6	7	8	9
Data Deletion									
Early Delete				X			X		
Medium Delete	X	X	X		X	X			
Late Delete								X	X
Never Delete									
Data Migration									
Direct to Tape									
Early Migrate	X	X	X		X	X		X	
Medium Migrate									X
Late Migrate									
Never Migrate				X			X		
Backup of Data									
Never Backup				X			X		
One Version									
Few Versions	X	X	X		X	X			
Many Versions								X	X
Concurrent Copy									
Partial Release									
Conditional/Close		Y	Y	Y		Y	Y		Y
Conditional/Daily									
GDG Action									
1 GDS on Primary		X	X			X			X
Many GDSs on L0									
Roll Off Expire		X	X			X			X
Management Class Id	1	2	2	3	1	2	3	4	5

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Management Class Design Answers ...

Data Type	PRO	PRO	PRO	LIB	LIB	IMS	IMS
Classification Box	10	11	12	13	14	15	16
Data Deletion							
Early Delete		X	X				
Medium Delete							
Late Delete	X			X	X		
Never Delete						X	X
Data Migration							
Direct to Tape		X	X				
Early Migrate							
Medium Migrate	X						
Late Migrate							
Never Migrate				X	X	X	X
Backup of Data							
Never Backup			X			X	X
One Version		X					
Few Versions							
Many Versions	X			X	X		
Concurrent Copy							
Partial Release							
Conditional/Close	Y	Y	Y				
Conditional/Daily							
GDG Action							
1 GDS on Primary	X						
Many GDSs on L0							
Roll Off Expire	X						
Management Class Id	5	7	6	8	8	9	9

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Management Class Design Answers ...

Data Type	B	T	B	T	B	T	WK	WK	EXC	EXC
Classification Box	17	18	19	20	21	22	23			
Data Deletion										
Early Delete										
Medium Delete	X									
Late Delete		X								
Never Delete										
Data Migration										
Direct to Tape	X	X								
Early Migrate										
Medium Migrate										
Late Migrate										
Never Migrate										
Backup of Data										
Never Backup	X	X								
One Version										
Few Versions										
Many Versions										
Concurrent Copy										
Partial Release										
Conditional/Close	Y	Y								
Conditional/Daily										
GDG Action										
1 GDS on Primary	X	X								
Many GDSs on L0										
Roll Off Expire	X	X								
Management Class Id	10	11	n/a	n/a	n/a	n/a	n/a	n/a		

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Management Classes

1. MC#1
2. MC#2
3. MC#3
4. MC#4
5. MC#5
6. MC#6
7. MC#7
8. MC#8
9. MC#9
10. MC#10
11. MC#11

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Management Class Protection

Mgmt. Class	JCL Use	Protected	By What
MC#1	no		
MC#2	no		
MC#3	no		
MC#4	yes	yes	ACS
MC#5	yes	yes	ACS
MC#6	yes	yes	ACS
MC#7	yes	yes	ACS
MC#8	no		
MC#9	no		
MC#10	no		
MC#11	yes	yes	ACS

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Management Class Definitions

MGMTCLAS NAME	EXPIRE NON-USAGE	EXPIRE DATE/DAYS	RET LIMIT	PARTIAL RELEASE	PRIMARY DAYS
MC#1	200			N	4
MC#2	200			CI	4
MC#3	1			CI	
MC#4	4000			N	4
MC#5	4000			CI	35
MC#6	7			CI	0
MC#7	7			CI	0
MC#8	4000			N	
MC#9	NOLIMIT			N	
MC#10	400			CI	0
MC#11	4000			CI	0

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Managment Class Definitions ...

MGMTCLAS NAME	LEVEL 1 DAYS	CMD/AUTO MIGRATE	# GDG ON PRIMARY	ROLLED-OFF GDS ACTION	BACKUP FREQ.
MC#1	7				
MC#2	7		1	EXPIRE	
MC#3		NONE			
MC#4	7				
MC#5	tape		1	EXPIRE	
MC#6	tape				
MC#7	tape				
MC#8		NONE			
MC#9		NONE			
MC#10	tape		1	EXPIRE	
MC#11	tape		1	EXPIRE	

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Managment Class Definitions ...

MGMTCLAS NAME	# BACKUPS DS EXISTS	# BACKUPS DS DELETED	RETAIN DAYS ONLY BACKUP	RETAIN DAYS EXTRA BACKUPS
MC#1	2			
MC#2	2			
MC#3				
MC#4	7			
MC#5	7			
MC#6				
MC#7	1			
MC#8	7			
MC#9				
MC#10				
MC#11				

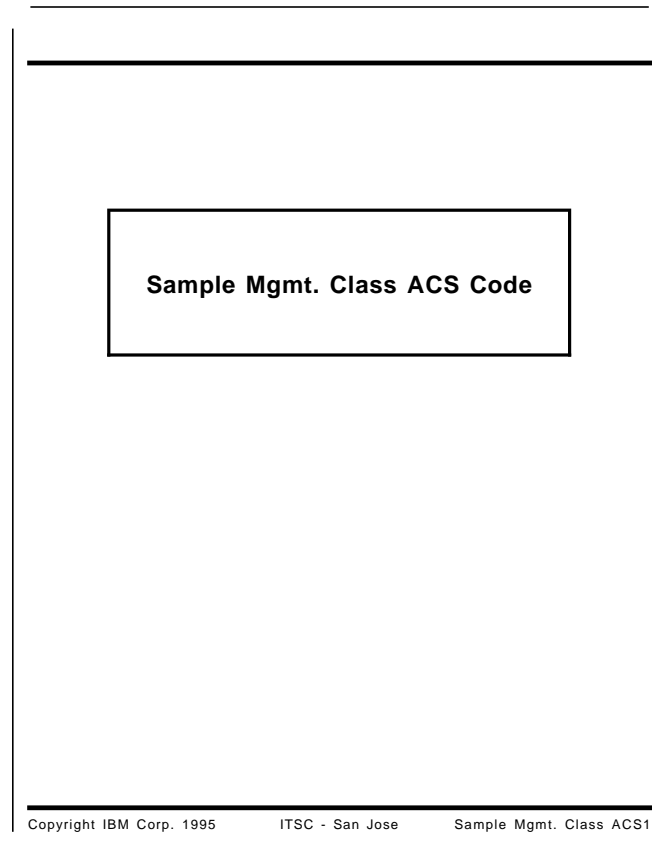
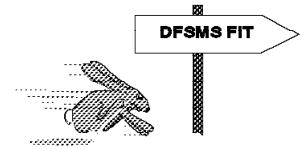
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Managment Class Definitions ...

MGMTCLAS NAME	ADM/USER BACKUP	AUTO BACKUP	...	CREATION YEARS	CREATION MONTHS
MC#1					
MC#2					
MC#3	NONE				
MC#4					
MC#5					
MC#6	NONE				
MC#7					
MC#8					
MC#9	NONE				
MC#10	NONE				
MC#11	NONE				

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Chapter 8. Sample Management Class ACS Coding



This chapter shows the management class ACS results for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 9 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand management class ACS code and the information in this chapter.

The first foil for each installation summarizes the installation's management class ACS coding considerations. Be sure to consider the ACS code for planning, but do not use it without tailoring and testing it to fit your specific environment.

ACS source is not provided for the following three installations:

- Large-sized transportation company
- Medium-sized retail company
- Large-sized bank.

1 - Small-Sized Government

- No management classes needed in the initial implementation

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2 - Small-Sized Bank

1. Select SMS-managed DASD data sets for processing
2. Assign JCL management class if entered by an authorized user
3. Assign test batch other than TSO session dependent data sets to have late deletion, medium migration, and backup services
4. Assign TSO session dependent data sets to have early delete, never migrate, and never backup services
5. Assign any other data sets to early delete, never migrate, and never backup services
6. End DASD data set processing

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Management Class ACS Coding

```
/* PROC START UP */
PROC &MGMTCLAS
  SELECT
/* AUTHORIZED MANAGEMENT CLASSES */
FILTLIST &AUTHORIZED_MGMTCLAS_USER INCLUDE (very short list,
&DPHSM&, &CHSM&, userids from safe)
FILTLIST &AUTHORIZED_JCL_MGMTCLAS INCLUDE (&MEDNMNB&, &MLDMMFB&)
  WHEN (&USER EQ &AUTHORIZED_MGMTCLAS_USER AND
&MGMTCLAS EQ &AUTHORIZED_JCL_MGMTCLAS)
    DO
      SET &MGMTCLAS = &MGMTCLAS
      EXIT
    END
/* TEST DATA MANAGEMENT CLASSES */
FILTLIST &APPL_TEST_DATA_HLQ INCLUDE (%%T*, %%Q*)
  WHEN (&HLQ EQ &APPL_TEST_DATA_HLQ AND &APPLIC EQ &SMSTSO&)
    DO
      SET &MGMTCLAS = &MLDMMFB&
      EXIT
    END
```

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```
FILTLIST &TSO_SESSION_DEPENDENT_DATA_LLQ
  INCLUDE (&LIST&, &LOG&, &LST&)
  WHEN (&LLQ EQ &TSO_SESSION_DEPENDENT_DATA_LLQ AND
&APPLIC EQ &SMSTSO&)
    DO
      SET &MGMTCLAS = &MEDNMNB&
      EXIT
    END
/* OTHERWISE FOR ALL NON JCL SYSTEM SOFTWARE BOTH TEST AND PROD */
OTHERWISE
  DO
    SET &MGMTCLAS = &MEDNMNB&
    EXIT
  END
END
```

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3 - Small-Sized Utility

1. Select SMS-managed DASD data sets for processing
2. Assign JCL management class if entered by an authorized user
3. Assign TCP/IP data set to early deletion, never migrate, and never backup services
4. Assign TSO list and log type data sets to early delete, never migrate, and never backup services
5. Assign all other TSO data sets to never delete, medium migrate, and backup services
6. Assign all test data sets to never delete, medium migrate, and extra backup services
7. Assign any other data sets to never delete, medium migrate, and backup services
8. End DASD data set processing

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ASC Management Class Logic

```
/* START OF MANAGEMENT CLASS PROC */
PROC &MGMTCLAS
/* SELECT TO ASSIGN DATA TO ITS MANAGEMENT CLASS */
SELECT /* SELECT #1 */
/* THE FIRST MANAGEMENT CLASS TEST IS TO SEE IF THERE */
/* IS A VALID MGMTCLAS ON THE JCL. IF THERE IS WE WILL */
/* ASSIGN THAT JCL PROVIDED MGMTCLAS TO THE DATA SET */
FILTLIST &VALID_JCL_MGMTCLAS INCLUDE (&MGDGT*)
FILTLIST &SPECIAL_USERS INCLUDE (list of DBS and system programmer
logon ids)
WHEN (&MGMTCLAS EQ &MCNOACT* AND &USER EQ &SPECIAL_USERS)
DO
SET &MGMTCLAS = &MGMTCLAS
EXIT
END /* END DO */
/* THE SECOND MGMTCLAS ASSIGNMENT TEST IS TO SEE IF THE */
/* DATA SET NEED A SPECIAL MGMTCLAS THAT CAN ONLY BE */
/* ASSIGNED BY ACS LOGIC */
/* THIS TEST CAN USE ANY VARIABLES TO IDENTIFY THE EXCEPTION */
/* DATA SET, IN THIS CASE THE DSN IS USED AND A FURTHER */
/* CHECK MAKES SURE THE ALLOCATION USER IS VALID FOR THIS */
/* SPECIAL MGMTCLAS ASSIGNMENT */
/* THIS TYPE OF LOGIC MUST BE REPEATED FOR EACH DIFFERENT */
/* MGMTCLAS THAT IS TO BE ASSIGNED BY ACS LOGIC */
FILTLIST &EARLY_DEL_DSN INCLUDE (*.ISMF.*,*.SPTEMP*.*,
**.*LIST, and others)
```

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ASC Management Class Logic ...

```
FILTLIST &TEST_DATA INCLUDE (%%*T.***)
EXCLUDE (*T.***MAST.SOURCE,*T.IDEAL**)
FILTLIST &SYSTEM_HLQ INCLUDE (list of system data set high level
qualifiers)
FILTLIST &LIB_DATA INCLUDE (*T.***MAST.SOURCE,*T.IDEAL**)
WHEN &UNIT EQ &TCPDPA*
DO
SET &MGMTCLAS = &MCINFRM*
EXIT
END /* END DO */
WHEN ( (&USER EQ &HLQ OR &UNIT EQ &TSODA*)
AND (&DSN EQ &EARLY_DEL_DSN) )
DO
SET &MGMTCLAS = &MCINFRM*
EXIT
END /* END DO */
WHEN (&USER EQ &HLQ OR &UNIT EQ &TSODA*)
DO
SET &MGMTCLAS = &MCSTD*
EXIT
END /* END DO */
```

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ASC Management Class Logic ...

```
WHEN (&DSN EQ &TEST_DATA)
DO
SET &MGMTCLAS = &MCYBCK*
EXIT
END /* END DO */
/* OTHERWISE FOR SELECT #1 */
/* FOR DATA SETS THAT ARE NOT ASSIGNED A MGMTCLASS BY USE */
/* OF JCL, ACF2 DEFAULT OR ACS LOGIC THEN THEY ARE ASSIGNED */
/* THE DEFAULT MANAGEMENT CLASS */
OTHERWISE /* FOR SELECT #1 */
DO
SET &MGMTCLAS = &MCSTD*
EXIT
END /* END DO */
/* END OF SELECT FOR MANAGEMENT CLASS ASSIGNMENT */
END /* END SELECT #1 */
/* END OF MANAGEMENT CLASS PROC */
END /* END OF PROC */
```

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5 - Large-Sized Bank

1. Select SMS-managed DASD data sets for processing
2. Assign JCL management class if entered except for data sets greater than 50 MB
3. Assign test migration service if JCL management class entered and data set size is greater than 50 MB
4. Assign never migrate data set exceptions to never migrate service
5. Assign weekend database reorganization data sets to never migrate service
6. Assign TSO list and log type data sets and any other short life data sets to delete early service
7. Assign TSO logon data sets to test migration service

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5 - Large-Sized Bank ...

8. Assign other test data smaller than 50 MB to medium migration service
9. Assign test data sets greater than 50 MBs to test migration service
10. Assign production libraries to never delete service
11. Assign production non-GDS data sets smaller than 50 MB to production migration service
12. Assign production GDSs and data sets greater than 50 MB to quick migration service
13. Assign all online data to no action service
14. Assign any other data to no action service
15. End DASD data set processing

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Management Class ACS Coding

```
/* START OF MANAGEMENT CLASS PROC */
PROC &MGMTCLAS
/* SELECT TO ASSIGN DATA TO ITS MANAGEMENT CLASS */
SELECT                /* SELECT #1      */
/* IF THE ALLOCATION IS FOR DASD THEN SELECT */
/* TO SEE HOW THE DATA SET SHOULD BE PROCESSED */
FILTLIST &VALID_DASD_UNITS INCLUDE ( &3380, &3390, SYS*, &,
and other dasd esoterics)
FILTLIST &VALID_OPTICAL_ACSENVIR INCLUDE (&STORE, &CHANGE, &CTRANS)
WHEN ((&UNIT EQ &VALID_DASD_UNITS)
AND (&ACSENVIR NE &VALID_OPTICAL_ACSENVIR))
SELECT                /* SELECT #2      */
/* PROCESS DASD      */
/* ALLOCATIONS FOR  */
/* SMS OR NON SMS   */
/* THIS TEST CAN USE ANY VARIABLES TO IDENTIFY THE EXCEPTION */
/* DATA SET, IN THIS CASE THE USER IS USED FOR THIS */
/* SPECIAL MGMTCLAS ASSIGNMENT */
FILTLIST &EXCEPTION_MGMTCLAS_USER INCLUDE (storage admin.)
WHEN (&USER EQ &EXCEPTION_MGMTCLAS_USER)
DO
SET &MGMTCLAS = &MGMTCLAS
EXIT
END                /* END DO      */
```

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```
/* THE FIRST MANAGEMENT CLASS TEST IS TO SEE IF THERE */
/* IS A VALID MGMTCLAS ON THE JCL, IF THERE IS WE WILL */
/* ASSIGN THAT JCL PROVIDED MGMTCLAS TO THE DATA SET */
/* AND HAVE RACF PROVIDE ANY NECESSARY SECURITY CONTROL */
FILTLIST &VALID_JCL_MGMTCLAS INCLUDE (&MCLEAN, &MCNOBACK)
WHEN ((&MGMTCLAS EQ &MCNOBACK)
AND (&SIZE GE 50 MB))
DO
SET &MGMTCLAS = &MCTMIG
EXIT
END                /* END DO      */
WHEN (&MGMTCLAS EQ &VALID_JCL_MGMTCLAS)
DO
SET &MGMTCLAS = &MGMTCLAS
EXIT
END                /* END DO      */
FILTLIST &NEVER_MIG_DATA_DSN INCLUDE (list from SET MIG)
WHEN (&DSN EQ &NEVER_MIG_DATA_DSN)
DO
SET &MGMTCLAS = &MCNOMIG
EXIT
END                /* END DO      */
```

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```

FILTLIST &REORG_TO_TEMP_DSN INCLUDE (IMSD.B.INFO**,**HSM.*BU.**,**SDSP???)

      WHEN (&DSN EQ &REORG_TO_TEMP_DSN)
      DO
          SET &MGMTCLAS = %MCINACT%
          EXIT
      END /* END FOR DO */

FILTLIST &LOGON_DSN INCLUDE (list of data sets used at logon)
FILTLIST &SCRATCH_DSN INCLUDE (list of data sets to be scratched)
FILTLIST &TEST_DSN INCLUDE (SYSM.M204ENG**,**SYSM.M204DEV**,**
                           SYSM.M204TST**,**SYSM.M204USR**)**
FILTLIST &TEST_HLQ INCLUDE (#####**,**##*T,#####S,#####B,
                           list from test catalogs,
                           list of TSO id with exclusions)

      WHEN (&DSN EQ &SCRATCH_DSN)
      DO
          SET &MGMTCLAS = %MCCLEAN%
          EXIT
      END /* END FOR DO */

      WHEN (&DSN EQ &LOGON)
      DO
          SET &MGMTCLAS = %CMCTIMIG%
          EXIT
      END /* END FOR DO */

```

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```

      WHEN (((&DSN EQ &TEST_DSN)
            OR (&HLQ EQ &TEST_HLQ))
            AND (&SIZE LT 50 MB))
      DO
          SET &MGMTCLAS = %CMCMEDMIG%
          EXIT
      END /* END FOR DO */

      WHEN (((&DSN EQ &TEST_DSN)
            OR (&HLQ EQ &TEST_HLQ))
            AND (&SIZE GE 50 MB))
      DO
          SET &MGMTCLAS = %CMCTIMIG%
          EXIT
      END /* END FOR DO */

FILTLIST &LIBS_DSN INCLUDE (EDVBL.**,**CORBL.**,**NWC5001.PROD1.**,**
                          ORC5001.PROD1.**,**COC5001.PROD1.**,**
                          WAC0018.PROD1.**,**NVC003.PROD1.**)**
FILTLIST &PROD_DSN INCLUDE (SMGBD.N**,**SYS7.CIC5**,**EPILOG**,**
                          SYS2.BDT**,**R00000**.**KJ**.**BDCM**,**
                          SYS2.BDT**.**PITX**.**DSL**,**M204PROD**,**
                          SYSM.M204ACC**,**.**RPT**,**.**VRPT**,**
                          **.**PACK**,**.**INFO**,**.**PAGE1**,**
                          **.**OIP**.**)**

EXCLUDE (**.**DATABASE.**,**.**.**DATABASE.**,**
          IRMBP.SDB0013**,**SMGBD.NCTL.**,**
          OFSBD.O**,**CPCBD.O**.**)**

```

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```

FILTLIST &PROD_HLQ INCLUDE (list from prod catalogs,%PDXBIT,%EDVDB%)
EXCLUDE (%IMSDB,%IMSAV%)

      WHEN (&DSN EQ &LIBS_DSN)
      DO
          SET &MGMTCLAS = %MCNODEL%
          EXIT
      END /* END FOR DO */

      WHEN (((&HLQ EQ &PROD_HLQ)
            AND (&DSORG NE %VSB%))
            OR (&DSN EQ &PROD_DSN))
            AND (&SIZE LT 50 MB)
            AND (&DSN NE &LIBS_DSN)
            AND (&DSTYPE NE %GDS%)
      DO
          SET &MGMTCLAS = %MCPFMIG%
          EXIT
      END /* END FOR DO */

      WHEN (((&HLQ EQ &PROD_HLQ)
            AND (&DSORG NE %VSB%))
            OR (&DSN EQ &PROD_DSN))
            AND (&SIZE GE 50 MB)
            AND (&DSN NE &LIBS_DSN)
            AND (&DSTYPE NE %GDS%)
      DO
          SET &MGMTCLAS = %MCQIKMG%
          EXIT
      END /* END FOR DO */

```

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```

      WHEN (((&HLQ EQ &PROD_HLQ)
            AND (&DSORG NE %VSB%))
            OR (&DSN EQ &PROD_DSN))
            AND (&SIZE GE 50 MB)
            AND (&DSN NE &LIBS_DSN)
            OR (&DSTYPE EQ %GDS%)
      DO
          SET &MGMTCLAS = %MCQIKMG%
          EXIT
      END /* END FOR DO */

FILTLIST &IDMS_DSN INCLUDE (**.**DATABASE.**,**.**.**DATABASE.**)**
FILTLIST &M204_DSN INCLUDE (IRMBP.SDB0013**)**
FILTLIST &IMS_DSN INCLUDE (IMSAV**,**IMSDB**)**
EXCLUDE (IMSD.B.INFO**)**

FILTLIST &OTHER_ONLINE_DSN INCLUDE (OFSBD.O**,**CPCBD.O**.**)**

```

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```

        WHEN (((&HLQ EQ &PROD_HLQ)
              AND (&DSORG EQ &VS&))
              OR (&DSN EQ &IMS_DSN)
              OR (&DSN EQ &M204_DSN)
              OR (&DSN EQ &IDMS_DSN)
              OR (&DSN EQ &OTHER_ONLINE_DSN))

        DO

            SET &MGMTCLAS = &MCNOACT&

            EXIT

        END                                /* END FOR DO      */

/* OTHERWISE FOR SELECT #2 */

/* IF A MGMTCLAS HAS NOT BEEN ASSIGNED TO THE DATA SET */
/* BASED ON INPUT JCL, RACF DEFAULTS, ACS SPECIAL LOGIC */
/* OR IDENTIFICATION THAT THE DATA SET IS TO NOT BE MANAGED */

        OTHERWISE                        /* FOR SELECT #2 */
                                           /* DASD ALLOCATION */

        DO

            SET &MGMTCLAS = &MCNOACT&

            EXIT

        END                                /* END DO          */

/* SELECT FOR DASD ALLOCATION PROCESSING */

        END                                /* END SELECT #2  */

```

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```

/* INCLUDE TAPE */

        WHEN ...

            SELECT

            ...

        END

/* INCLUDE OPTICAL */

        WHEN ...

            SELECT

            ...

        END

/* OTHERWISE FOR SELECT #1 */

/* FOR DATA SETS THAT ARE NOT ASSIGNED A MGMTCLASS BY USE */
/* OF JCL, RACF DEFAULT OR ACS LOGIC THEN THEY ARE ASSIGNED */
/* THE DEFAULT MANAGEMENT CLASS */

        OTHERWISE                        /* FOR SELECT #1 */

        DO

            SET &MGMTCLAS = &MCNOACT&

            EXIT

        END                                /* END DO          */

/* END OF SELECT FOR MANAGEMENT CLASS ASSIGNMENT */

        END                                /* END SELECT #1  */

```

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6 - Large-Sized Manufacturing Company

1. Select SMS-managed DASD data sets for processing
2. Assign short life permanent data sets to temporary service
3. Assign TSO list and log type data sets to short life service
4. Assign all other TSO data sets to medium migration service
5. Assign library data to late migration service
6. Assign all other data sets to early migration service
7. End DASD data set processing

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ACS Management Class Coding

```
/* START OF MANAGEMENT CLASS PROC */
PROC &MGMTCLAS
/* SELECT TO ASSIGN DATA TO ITS MANAGEMENT CLASS */
SELECT                                /* SELECT #1 */
/* THE FIRST MANAGEMENT CLASS TEST IS TO SEE IF THERE */
/* IS A VALID MGMTCLAS ON THE JCL, IF THERE IS WE WILL */
/* ASSIGN THAT JCL PROVIDED MGMTCLAS TO THE DATA SET */
/* THE SECOND MGMTCLAS ASSIGNMENT TEST IS TO SEE IF THE */
/* DATA SET NEEDS A SPECIAL MGMTCLAS THAT CAN ONLY BE */
/* ASSIGNED BY ACS LOGIC */
/* THIS TEST CAN USE ANY VARIABLES TO IDENTIFY THE EXCEPTION */
/* DATA SET, IN THIS CASE THE DSN IS USED AND A FURTHER */
/* CHECK MAKES SURE THE ALLOCATION USER IS VALID FOR THIS */
/* SPECIAL MGMTCLAS ASSIGNMENT */
/* THIS TYPE OF LOGIC MUST BE REPEATED FOR EACH DIFFERENT */
/* MGMTCLAS THAT IS TO BE ASSIGNED BY ACS LOGIC */
      WHEN (&ANYVOL EQ SCR* OR &UNIT EQ &DISK*)
```

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ACS Management Class Coding ...

```
DO
  SET &MGMTCLAS = &MCTEMP&
  EXIT
END                                /* END DO */
FILTLIST &TSO_TRASH_DATA_LLQ INCLUDE (&OBJ&, &LIST&, &OUTLIST&, &OUTPUT&)
FILTLIST &TSO_DATA_HLQ INCLUDE (list of TSO high level qualifiers
                               in the format of aa***** )
  WHEN ( &LLQ EQ &TSO_TRASH_DATA_LLQ
        AND &HLQ EQ &TSO_DATA_HLQ
        AND &DSORG EQ &PS& )
  DO
    SET &MGMTCLAS = &MCSHORT&
    EXIT
  END                                /* END DO */
  WHEN &HLQ EQ &TSO_DATA_HLQ
  DO
    SET &MGMTCLAS = &MCMEDMIG&
    EXIT
  END                                /* END DO */
```

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ACS Management Class Coding ...

```
FILTLIST &LIB_DATA_DSN INCLUDE (*.PAN**,*UCCT**,*FOCL**,
                               (mark4**,SAS**,SCIN**))
FILTLIST &SYSTEM_PDS_HLQ INCLUDE (list of high level qualifiers
                                  of system data PDSs)
  WHEN ( &DSN EQ &LIB_DATA_DSN
        OR (&DSORG EQ &PO& AND &HLQ NE &SYSTEM_PDS_HLQ) )
  DO
    SET &MGMTCLAS = &MCLATMIG&
    EXIT
  END                                /* END DO */
/* OTHERWISE FOR SELECT #1 */
/* FOR DATA SETS THAT ARE NOT ASSIGNED A MGMTCLASS BY USE */
/* OF JCL, RACF DEFAULT OR ACS LOGIC THEN THEY ARE ASSIGNED */
/* THE DEFAULT MANAGEMENT CLASS */
  OTHERWISE                                /* FOR SELECT #1 */
  DO
    SET &MGMTCLAS = &MCMERLMIG&
    EXIT
  END                                /* END DO */
/* END OF SELECT FOR MANAGEMENT CLASS ASSIGNMENT */
  END                                /* END SELECT #1 */
/* END OF MANAGEMENT CLASS PROC */
  END                                /* END OF PROC */
```

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7 - Medium-Sized Petrochemical Company

1. Select SMS-managed DASD data sets for processing
2. Assign short life permanent data sets to temporary service
3. Assign management class from JCL if it is a valid request
4. Assign all GDSs a GDG service
5. Assign TSO and TCP/IP short term and log or list type data sets to short life service
6. Assign other TCP/IP data sets to TCP/IP service
7. Assign other TSO data sets to production service
8. Assign all batch production data sets to production service
9. Assign all online databases to online service
10. Assign all other data, including test data, to test service
11. End DASD data set processing

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ACS Management Class Logic

```
/* START OF MANAGEMENT CLASS PROC */
PROC &MGMTCLAS
/* SELECT TO ASSIGN DATA TO ITS MANAGEMENT CLASS */
SELECT /* SELECT #1 */
/* ADD IMAGE LOGIC AT THIS LOCATION */
/* THIS TEST CAN USE ANY VARIABLES TO IDENTIFY THE EXCEPTION */
/* DATA SET, IN THIS CASE THE DSN IS USED AND A FURTHER */
/* CHECK MAKES SURE THE ALLOCATION USER IS VALID FOR THIS */
/* SPECIAL MGMTCLAS ASSIGNMENT */
FILTLIST &WORK_DATA_LLQ INCLUDE (+TEMP+)
WHEN (&USER EQ &USERS_OF_EXCEPTION_MGMTCLAS
AND &DSN EQ &DATA_FOR_EXCEPTION_MGMTCLAS)
DO
SET &MGMTCLAS = +TEMP+
EXIT
END /* END DO */
```

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ACS Management Class Logic ...

```
/* IS A VALID MGMTCLAS ON THE JCL, IF THERE IS WE WILL */
/* ASSIGN THAT JCL PROVIDED MGMTCLAS TO THE DATA SET */
/* AND HAVE RACF PROVIDE ANY NECESSARY SECURITY CONTROL */
FILTLIST &VALID_JCL_MGMTCLAS INCLUDE (+MPROD+,&MGSAM+)
FILTLIST &VALID_MGMTCLAS_JCL_USER INCLUDE (LIST OF USERS)
FILTLIST &VALID_MGMTCLAS_JCL_GROUP INCLUDE (PROD CNTRL, TECH SUPPORT,
DBA)
WHEN (&MGMTCLAS EQ &VALID_JCL_MGMTCLAS
AND (&USER EQ &VALID_MGMTCLAS_JCL_USER
OR &GROUP EQ &VALID_MGMTCLAS_JCL_GROUP) )
DO
SET &MGMTCLAS = &MGMTCLAS
EXIT
END /* END DO */
/* ASSIGN MC FOR GDGS */
WHEN &DSTYPE EQ +GDS+
DO
SET &MGMTCLAS = +MGDG+
EXIT
END /* END DO */
```

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ACS Management Class Logic ...

```
/* ASSIGN MC FOR TSO */
FILTLIST &TSO_DATA_HLQ INCLUDE (LIST OF TSO AND TCP/IP HLQS)
FILTLIST &SHORT_SCRATCH_DSN INCLUDE (LIST OF TSO AND TCP/IP SCRATCH
DSNS)
WHEN &DSN EQ &SHORT_SCRATCH_DSN
DO
SET &MGMTCLAS = +MTCBKNW+
EXIT
END /* END DO */
WHEN &HLQ EQ &TSO_DATA_HLQ
DO
SET &MGMTCLAS = +MPROD+
EXIT
END /* END DO */
/* ASSIGN MC FOR PROD */
FILTLIST &PROD_DATA_HLQ INCLUDE (LIST OF PROD HLQS)
WHEN &HLQ EQ &PROD_DATA_HLQ
DO
SET &MGMTCLAS = +PADMIN+ OR +MPROD+
EXIT
```

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ACS Management Class Logic ...

```
END                                /* END DO      */
/* ASSIGN MC FOR DATABASE */
FILTLIST &PROD_DB_ANYVOL INCLUDE (LIST OF PROD IMS VOL SERIALS)
FILTLIST &TTESTDB_ANYVOL INCLUDE (LIST OF TEST IMS VOL SERIALS)
FILTLIST &PROD_DB_DATA_HLQ INCLUDE (LIST OF PROD DB HLQS)
FILTLIST &TEST_DB_DATA_HLQ INCLUDE (LIST OF TEST DB HLQS)
FILTLIST &CICS_VSAM_DATA_HLQ INCLUDE (LIST OF PROD CICS VSAM HLQS)
  WHEN &HLQ EQ &CICS_VSAM_DATA_HLQ
  DO
    SET &MGMTCLAS = &MONL&
    EXIT
  END                                /* END DO      */
  WHEN ( (&HLQ EQ &PROD_DB_DATA_HLQ
        AND &ANYVOL EQ PROD_DB_ANYVOL)
        OR (&HLQ EQ &TEST_DB_DATA_HLQ
        AND &ANYVOL EQ TEST_DB_ANYVOL) )
  DO
    SET &MGMTCLAS = &MONL&
    EXIT
  END                                /* END DO      */
/* OTHERWISE FOR SELECT #1 */
```

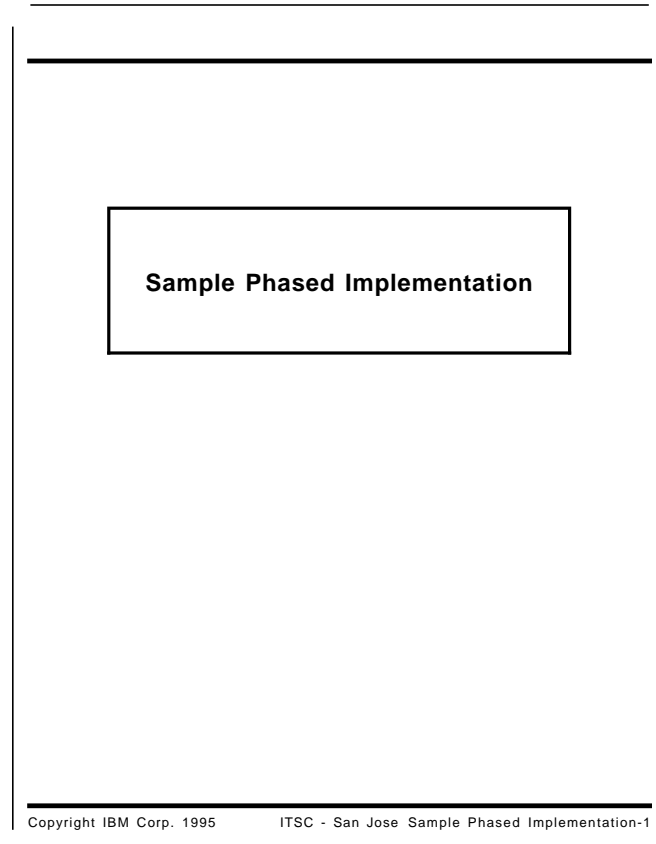
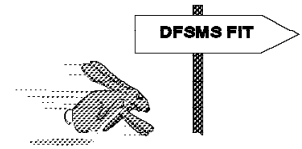
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ACS Management Class Logic ...

```
/* FOR DATA SETS THAT ARE NOT ASSIGNED A MGMTCLASS BY USE */
/* OF JCL, RACF DEFAULT OR ACS LOGIC THEN THEY ARE ASSIGNED */
/* THE DEFAULT MANAGEMENT CLASS */
/* ASSIGN MC FOR TEST */
  OTHERWISE                                /* FOR SELECT #1 */
  DO
    SET &MGMTCLAS = &MTEST&
    EXIT
  END                                /* END DO      */
/* END OF SELECT FOR MANAGEMENT CLASS ASSIGNMENT */
  END                                /* END SELECT #1 */
/* END OF MANAGEMENT CLASS PROC */
END                                /* END OF PROC */
```

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Chapter 9. Sample Phased Implementation



This chapter shows the phased implementation plan for each of the nine installations that used the DFSMS FIT process for DFSMS implementation. Use Chapter 12 of the *DFSMS FIT: Fast Implementation Techniques Process Guide* as a reference to understand phased implementation and the information in this chapter.

The foil for each installation shows the order of the installation's phased DFSMS implementation.

1 - Small-Sized Government

Phased Implementation

1. Pilot user's temporary data sets
2. All temporary data sets

2 - Small-Sized Bank

Phased Implementation

1. TSO within test
 - a. Pilot groups - by HLQ - current ACS design
 - b. Same pilot groups - by RACF control
 - c. All groups

2. Temp
 - a. Test of critical applications
 - b. Pilot noncritical applications
 - c. All applications

3. All other test
 - a. Pilot test application
 - b. Selected test applications
 - c. All test applications

3 - Small-Sized Utility

Phased Implementation

1. All Work
2. Pilot TSO
3. All TSO
4. Pilot test
5. All TCP/IP
6. More test
7. All test

4 - Large-Sized Transportation Company

Phased Implementation

1. Pilot SMS implementation

- a. Test/TSO pool for pilot users
- b. Test/TSO pool for group 1 users
- c. Test/TSO pool for group 2 users

2. GDG space reclamation

- a. Production pool GDGs for pilot users from software and operations
- b. Production pool GDGs for pilot external users
- c. Production pool GDGs for first third of pool
- d. Production pool GDGs for second third of pool
- e. Production pool GDGs for last third of pool

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4 - Large-Sized Transportation Company ...

3. SMS for production pools

- a. Production pool backups for pilot users
- b. Production pool backups for all users
- c. Production pool libraries for pilot users
- d. Production pool libraries for all users
- e. Production pool sequentials for pilot users
- f. Production pool sequentials for all users
- g. Production pool VSAMs for pilot users
- h. Production pool VSAMs for all users
- i. Online database for pilot users
- j. Online database for all users

4. Implement work pool

- a. Work pool system temporary data sets for pilot users
- b. Work pool test temporary data sets for pilot users
- c. Work pool production temporary data sets for pilot users
- d. All work pool

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5 - Large-Sized Bank

Phased Implementation

1. Temporary data, pilot users
2. All temporary data
3. Test data, pilot users
4. First one-half of test data
5. Second one-half of test data
6. Production data, pilot users
7. Production data, group 1 of applications
8. Production data, group 2 of applications
9. Production data, group 3 of applications
10. Production data, group 4 of applications
11. Production data, group 5 of applications
12. Online data, pilot users
13. Online data, group 1 of applications
14. Online data, group 2 of applications
15. Online data, group 3 of applications

6 - Large-Sized Manufacturing Company

Phased Implementation

1. Test data pilot - by HLQ
2. All test data
3. TSO data pilot - by HLQ
4. All TSO data
5. All scratch data
6. Sequential pilot - by HLQ
7. All sequential data
8. VSAM data pilot - by HLQ
9. All VSAM data
10. Library data pilot - by HLQ
11. All Library data

7 - Medium-Sized Petrochemical Company

Phased Implementation

1. Pilot users, work (no VIO)
2. All work (no VIO)
3. Pilot system users, TSO
4. All TCP/IP
5. Add VIO to work
6. Pilot application users, TSO
7. Pilot users, test
8. Pilot users, batch production
9. All new allocations, TSO, test, and batch production
10. Volume range 1, TSO, test, and batch production
11. Volume range 2, TSO, test, and batch production
12. Volume range 3, TSO, test, and batch production
13. Volume range 4, TSO, test, and batch production
14. Pilot users, test database
15. All test database
16. Pilot users, production database
17. All production database

8 - Medium-Sized Retail Company

Phased Implementation

1. Temporary, pilot users
2. All temporary
3. TSO, pilot users
4. All TSO
5. Test, pilot users
6. Acceptance, pilot users
7. All test and acceptance
8. RMDS, pilot users
9. All RMDS
10. Production, GDG, and DB2, pilot applications
11. All production, GDG, and DB2

9 - Large-Sized Bank

Phased Implementation

1. System temporary, pilot users
2. All system temporary
3. Test and TSO, pilot users
4. Test and TSO, volume group 1
5. Test and TSO, volume group 2
6. Backups and TMR, pilot users
7. All backups and TMR
8. Production and libraries, pilot applications
9. All libraries
10. Production, application volume group 1
11. Production, application volume group 2
12. Production, application volume group 3
13. Production, application volume group 4
14. IMS, pilot application
15. IMS, application volume group 1
16. IMS, application volume group 2
17. IMS, application volume group 3

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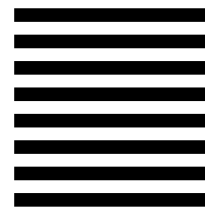
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