Storage Administration Workbench
for z/OS and OS/390

User's Guide

Version 1 Release 1

SC27-1608-00

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This edition applies to Version 1, Release 1 of IBM Storage Administration Workbench for z/OS and OS/390 (product number 5697-H61) and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this book

This book provides instructions on how to perform typical storage administration tasks using Storage Administration Workbench for z/OS and OS/390. It contains information on managing resources, viewing reports, and responding to alerts.

This product must be installed on each dataplex (or system) where storage resources have to be monitored. For installation instructions, refer to the Program Directory that accompanied the installation tapes and to Chapter 3, "Installing Storage Administration Workbench" on page 19 of this book.

Who should read this book

This book is intended for use by storage administrators and systems programmers. The many features of this product will be helpful to someone who is familiar with managing systems resources, such as a cache, DASD, and catalogs, and with using reports to determine how to optimize those resources.

How this book is organized

This book is divided into the following chapters:

- Chapter 1, *Storage Administration Workbench*, provides a general description of SAW's primary features and explains how to access the SAW Main Menu.
- Chapter2, *Configuring Storage Administration Workbench*, walks through all of the steps that must be performed to customize SAW for your environment.
- Chapter 3, *Common Tasks*, lists tasks that are performed by an administrator on a frequent basis, and provides instructions on how to use SAW to complete those tasks.
- Chapter 4, *Collecting Data*, describes the methods you can use to collect data online or in batch. After the data is collected, it can be used in reports.
- Chapter 5, *Creating and viewing reports*, explains how to customize reports using parameters, thresholds, and alerts. It also provides an example of each report that is available through the Reporting option on the SAW main menu.
- Chapter 6, *Utilities*, describes the many IBM utilities that are accessible through SAW.
- Appendices: Error messages and diagrams of dataplex configurations are listed in appendices at the back of the book.

Related Publications

The following IBM publications provide information about storage administration or other processes that are related to SAW.

Table 1. List of related publications

Publication Number	Title
SC35-0387	DFSMShsm Managing Your Own Data
SC35-0422	DFSMShsm Storage Administration Reference
GX26-3813	Device Support Facilities Reference Summary

Table 1. List of related publications (continued)

Publication Number	Title
SG24-5272	DFSMShsm Primer (a Redbook)
SC35-0424	DFSMSdss Storage Administration Reference
SC35-0423	DFSMSdss Storage Administration Guide
SC26-7410	DFSMS: Using Data Sets
SC26-7409	DFSMS: Managing Catalogs
SC26-7394	DFSMS Access Method Services for Catalogs
GA32-0253	IBM 3990/9390 Operations and Recovery Guide

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Chapter 1. Introduction to Storage Administration Workbench

IBM Storage Administration Workbench for z/OS and OS/390 is a centralized storage solution that greatly improves administrator productivity, streamlines the monitoring of storage devices, and increases the efficiency of existing storage to yield a higher return on your storage investment.

IBM Storage Administration Workbench extends DFSMS management across multiple sites and images to give you a single ISPF-based focal point for monitoring and controlling storage resources across the enterprise. It provides an effective way of checking a status, analyzing trends, setting thresholds, performing housekeeping, and issuing commands, giving you advanced support for storage management.

Designed for storage administrators and system programmers of all skill levels, IBM Storage Administration Workbench enables you to do the following:

- Improve utilization, analysis, and planning for z/OS storage resources.
- Simplify tasks, such as measuring, predicting, and controlling storage resources.
- Give storage administrators more control in managing multiple systems and locations from a single interface.
- Provide exceptions and alters to conditions that require an administrator's attention.
- Allow you to view current status and historical trends to help you define and analyze storage metrics.
- Provide extensive reporting capabilities with summary and detail information on applications, storage groups, and pools on all z/OS systems across the enterprise.

Performing administrative tasks with SAW

Storage administrators must perform a number of tasks to monitor and manage storage resources across an enterprise. However, a storage administrator’s time is divided between tasks that must be performed daily or routinely, and tasks that are performed on an "as needed" basis requiring more time to resolve. The Storage Administration Workbench, referred to as "SAW" for easier reading, addresses the complete range of administration tasks. With SAW, a storage administrator can perform all of the following "real life" tasks:

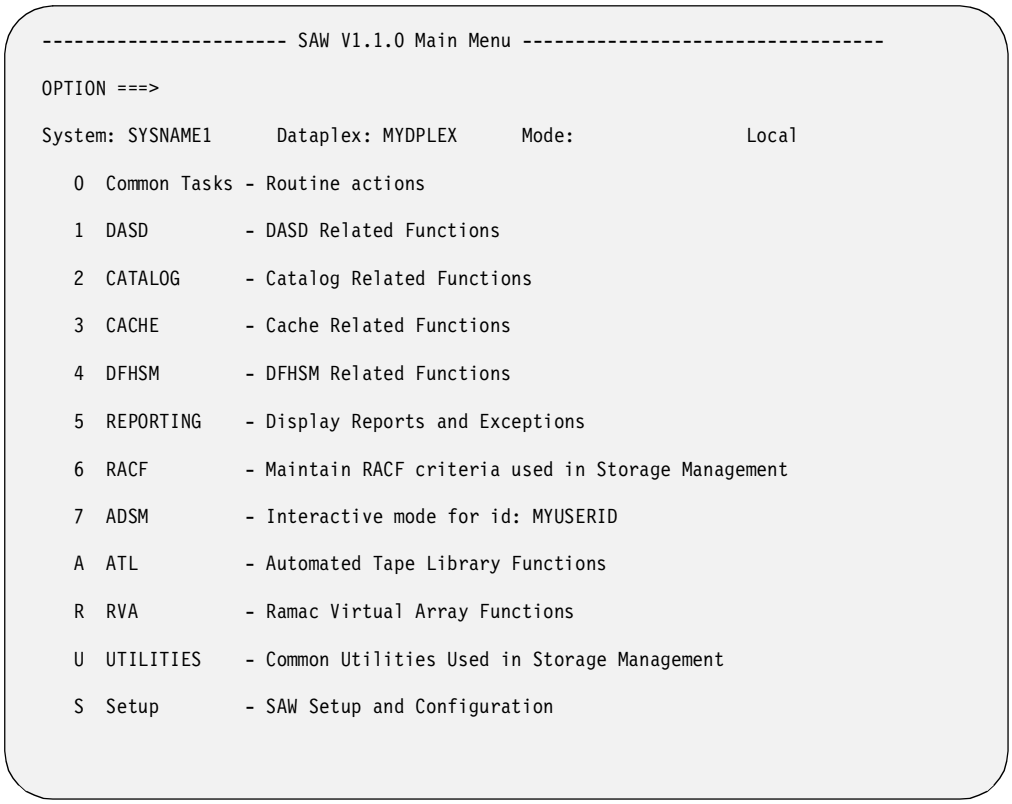
- View volume pool reports and trends for any system from one logon.
- View usage history reports that are categorized by volume, storage group, or application group.
- Respond to alerts for conditions that have exceeded thresholds, such as out of space and media errors.
- Check the status of jobs, such as back up jobs or data collection jobs.
- Perform backup and recovery tasks, such as scheduling backups and restoring damaged data sets.
- Manage storage resources, such as archiving or deleting old data, setting tuning limits, and adjusting RACF.
- Make changes to the system environment, such as adding devices, formatting volumes, and cataloging volumes and data sets.

- Trend any pool or storage group. Select a view for that particular day and receive a trend of a specific volume over time. You can also trend the total system, meaning all volumes.
- Perform dataplex maintenance. You can see information collected by the Storage Administration Inventory (SAI), then dynamically sort, scroll, or enter commands to manage storage groups or individual volumes. For example, if you select a storage group and it contains 100 volumes, values are displayed for each of those volumes, and you can perform actions against a specific volume.
- Set thresholds for every pool or storage group, and receive alerts when those thresholds are crossed.
- Use the ISPF-based interface to perform DASD and storage management functions. There is no need to remember command sequences. For example, if you want to analyze a disk, you indicate what you want to do, and SAW will create the JCL for you.
- Schedule onsite or offsite volume dumps or housekeeping options, like volume space defragmentation and deletion of old data.
- Perform a number of catalog management functions, such as updates, build/refresh, display catalogs/aliases, list values over thresholds, and run utilities. For example, you can select a catalog for an immediate backup. Otherwise, SAW detects and backs-up catalogs automatically. There is no need to code new catalog names in backup jobs.
- Send the query ACTIVE command to HSM dynamically and receive an immediate reply.
- View one of several reports, such as:
  - — detailed and summarized DASD volume and pool reports
  - — reports of old and large data sets
  - — space usage by system, application, and high level qualifier
  - — age distribution of data sets
  - — an HSM LOGSCAN summary report.

  The majority of these reports are kept in GDGs on the local MVS system, so you can select which night's work to review. For example, if you looked at an HSM report that shows a CDS backup and the volumes processed, the report highlights what did not run and summarizes what did run. Every failed data set is listed, along with the error description, and SAW prepares commands for you to re-try the failures.

Chapter 2. Overview of SAW

This chapter provides an overview of the SAW main menu and each of the main menu options. This will give you an idea of the many storage administration actions you can perform with SAW. However, you may find that you only use some of the SAW features on a regular basis. The tasks considered to be typical of storage administration are described in more detail in this user guide.



For a brief description of these main menu options, refer to the table below.

Menu Option	Description
0 - Common Tasks	Option 0 provides a convenient list of actions that may be taken on a daily or frequent basis.
1 - DASD	Option 1 is the main interface into the administrative and maintenance functions that you may want to perform for DASD.
2 - Catalog	Option 2 lists the options available for performing administrative and maintenance functions on the master and user catalogs.
3 - Cache	Option 3 lists the options available for performing administrative and maintenance functions on cache.
4 - DFHSM	Option 4 lists the options available for performing administrative and maintenance functions for the DFHSM.
5 - Reporting	Option 5 displays reports and exceptions.

Menu Option	Description
6 - RACF	Option 6 provides options for performing RACF management regarding storage administration.
7 - ADSM	Option 7 refers to the use of the ADSTAR Distributed Storage Manager, which is now named "Tivoli Storage Manager." The ADSM option enables interactive mode for the user ID listed in this field.
A - ATL	Option A provides information about the IBM tape robot referred to as the "automated tape library" (ATL). This option applies only to those sites that use an ATL.
R - RVA	Option R provides an interface to perform functions against RAMAC Virtual Array (RVA) drives.
U -Utilities	Option U displays the facility to generate online jobs or submit batch jobs on IDCAMS and ICKDSF.
S - Setup and Configuration	Option S lists options for performing maintenance on dialogs and batch jobs for a dataplex. Also describes customization steps to be taken after SAW is installed and for maintenance.

Option 0 - Common Tasks

To see a list of tasks that are performed on a daily or frequent basis, select option 0, **Common Tasks**, on the SAW main menu. The following screen displays:

```
----------------------------- Common Tasks -----------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   0  BACKUP-DASD     Look for DASD backup jobs in error status

   1  BACKUP-Catalog  Look for Catalog backup jobs in error status

   2  SAI SCAN        Look for POOLs with free space under threshold,

                      for UNASSIGNED, and for volumes with HOME-LOC.=?

   3  DFHSM           Check DFHSM Control Data Sets

   4  CATALOG         List catalog values over threshold

   5  CACHE           Cache error reporting

   6  LOGSCAN         Sysout control of DFHSM

   7  LOGSCAN SMS     ADDVOL suggestions

   8  CHPID           Display all missing CHP-ids
```

The table below describes each option on the Common Tasks menu. A storage administrator may want to run through these options frequently because all of the error conditions are collected here.

Option Name	Description
Backup - DASD	Option 0 provides a list of DASD backup jobs with an error status.
Backup - Catalog	Option 1 provides a list of catalog backup jobs with an error status.
SAI SCAN	Option 2 gives access to the Storage Administration Inventory (SAI) for controlling pools and volumes.
DFHSM	Option 3 checks the DFHSM MCDS, BCDS, and SDSP data sets. CHECK CDS runs a command that summarizes the results from LISTCAT on each HSM control data set in the system. This includes the MCDS (Migration Control Data Set), BDCS (Backup Control Data Set), OCDS (Offline Control Data Set), and any SDSP (Small Data Set Packing) clusters that are found on the system. The command lists each cluster, indicating whether the data set needs to be reorganized to improve performance and storage utilization.
Catalog	Option 4 indicates if the thresholds for a catalog have been exceeded.
Cache	Option 5 processes an IDCAMS LISTDATA job on cache resources.
Logscan	Option 6 displays the results of HSM LOGSCAN jobs.
Logscan SMS	Option 7 is for the DFSMS environment only. This option indicates which volumes should be processed with an ADDVOL in a dummy ARCCMD00 needed by LOGSCAN.
CHPID	Option 8 gathers all of the missing CHannel Path IDs, which contain a minus sign (-) when in a problem state.

More information on the use of these options is provided in Chapter 5, “Performing Common Tasks” on page 69.

Option 1 - DASD

To perform administrative and maintenance functions relating to DASD, select option 1, **DASD**, on the SAW main menu. The DASD Management screen displays:

```
----------------------------- DASD Management --------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:               Local

   1  UPDATE/DISPLAY   Display and/or update Storage Administration Inventory

   2  HAND             Display and/or update existing volume hand writing

   3  STRING           Display and/or update string assignment

   4  POOL/SG-USAGE    Display POOL/SG-Space history

   5  POOL/SG-TRACE    Display POOL/SG-Space trace table

   6  DCOLLECT         Execute DCOLLECT volume record selection

   7  DISPLAY UCB      Display actual  DASD-UCB   information of system XXXX

   8  MISSING CHPIDs   Display missing DASD-CHPID information of system XXXX

   9  SAI COLLECT      On-line collect of new information for system XXXX

  10  VOL to POOL      Display and/or update Volume(s) to Pool Configuration

   U  UTILITIES        for DASD maintenance
```

The table below describes each option on the DASD Management menu.

Option Name	Description
Update/Display	Option 1 allows you to see the state of your DASD resources in terms of pools, storage groups, or volumes. You can also delete table entries, update the handwriting associated with a pool or storage group, display space trends, and modify values for thresholds.
Hand	Option 2 displays the list of volumes that contain handwriting, which is text that you enter on the Handwriting screen (option 1.1 on the SAW main menu, then S, then H). This text provides a description of the volser and indicates who is responsible for performing backup processing and resolving error conditions.
String	Option 3 allows a mass update for string and machine room assignments. You can either update (U) or delete (D) a table entry. When you are done making the string assignments, you can use these commands: • Type **PACKMAP** to see a configuration map of different units per machine room. • Type **LISTVOL** to see a list of volumes.

Option Name	Description
Pool/SG Usage	Option 4 displays the results of a routine IDCAMS DCOLLECT by pool name, providing a history of the pool and storage group usage. You can view a volume list or a trend list for a specific pool.
Pool/SG Trace	Option 5 displays the trace table of a pool or storage group. The screens are similar to those in option 4, **Pool/SG Usage**.
DCOLLECT	Option 6 is where you specify which pool, storage groups, and volumes you want to include in DCOLLECT processing.
Display UCB	Option 7 shows the state of the Channel Path IDs for each volume.
Missing CHPIDs	Option 8 lists the Channel Path IDs that are not resolved.
SAI Collect	Option 9 builds the Storage Administration Inventory (SAI) in interactive mode. You can also perform this process in batch mode. To build the SAI, Storage Administration Workbench performs these steps: 1. Executes IDCAMS DCOLLECT to process volume information of all online DASD volumes. 2. Gathers UCB information of all online DASD volumes. 3. Executes IDCAMS to list all cache-controlled DASD volumes. 4. Updates the SAI.
VOL to POOL	Option 10 allows you to assign volumes to pools or applications automatically, based on a generic volser specification, such as VOL* to POOL1. You can also indicate that a matching volume will be selected only if the last digits of the volume label equal the UCB that is related to the volume.
Utilities	This option (U) contains a number of utilities that process jobs that are frequently used in storage administration. The JCL tailoring allows you to process and submit those jobs. The utilities are: 1. DFDSS - functions using ADRDSSU 2. DSF - functions using ICKDSF 3. Diagnose - BCS or VVDS structure 4. Restore - from DFDSS full or logical dump 5. Determine - all data sets on a selected volser from DCOLLECT output 6. Determine - data set information from DCOLLECT output.

Option 2 - Catalog

Option 2 on the SAW main menu is **Catalog**. Use this option to perform catalog management functions. When you choose the Catalog option, the following menu displays:

```
---------------------------- Catalog Management -----------------------------

OPTION ===>

System: SYSNAME1                Local Dataplex: MYDPLEX

   1  UPDATE/DISPLAY - the CATALOG-NAMES-TABLE with table refresh: NO

   2  DISPLAY BACKUP - Display backup in ERROR or NOT COMPLETED status

   3  BUILD/REFRESH  - RACF-User/Group tables

   4  BUILD/REFRESH  - The overall CATALOG and ALIAS maintenance tables

   5  DISPLAY CATALOG- Display the CATALOG maintenance table

   6  DISPLAY ALIAS  - Display the ALIAS maintenance table

   7  GENERATE       - The MISSING ALIAS CONNECTOR jobstream

   8  LIST           - Values over threshold

   9  ICFRU          - ICF forward recovery utility


   U  UTILITIES      - For catalog maintenance
```

The table below describes each option on the Catalog Management menu.

Option Name	Description
Update/Display	Option 1 lists all of the catalogs found on the dataplex. You can then do any of the following: • Make updates to the catalog, such as the catalog type or the home location. • Delete obsolete catalog entries. • Process an IDCAMS DIAGNOSE command. • Create backup JCL.
Display Backup	Option 2 displays a list of catalog jobs that are either in "error" or "not completed" status. This option makes an extract of a catalog backup where the "Submit date/time" is still on, meaning that there was a failure in the job.
Build/Refresh	Option 3 allows you to specify a data set to be used for building or refreshing RACF user and group tables.
Build/Refresh	Option 4 performs a build or refresh of a the catalog and alias maintenance tables. Use this option to submit an online execution to refresh these tables.

Option Name	Description
Display catalog	Option 5 displays the catalog maintenance table, including the catalog name and the names of the systems on which the catalog is known.You can then perform any of the following functions: • Display, connect, delete, or merge an alias. • Connect or disconnect a user catalog. • List the status of the GDG-BASE entries. • Diagnose the user catalog. • List the contents of the catalog. • Merge the user catalog with another user catalog.
Display alias	Option 6 displays the alias maintenance table, including the alias name, RACF owner, ID, group or user, and a flag that indicates if there is a mismatch for the alias. Your options are: • Connect an alias. • Delete an alias. • View all of the detail information about an alias, such as the system or JES-ID, catalog name, and volume where the alias is located.
Generate	Option 7 generates an alias connector list for aliases that are missing. If there are missing connections, use this option to generate the JCL to add them.
List	Option 8 lists any thresholds that have been exceeded. If no values are over the defined thresholds, a message displays informing you that there are no errors. **Note:** To set up the thresholds, follow these steps: 1. Type **S.2** in the Option line on the SAW main menu. 2. Select option 7, **Exception Rep.**, on the Dataplex and System Maintenance menu. 3. Select option 14, **Catalog parameters**, on the Control File Maintenance menu. The JCL for this job displays. 4. Update the JCL with any changes you want to make to the parameters. These are the values that will be used to determine whether a catalog threshold has been exceeded.
ICFRU	Option 9 enables you to specify the name of a damaged catalog, then use the IC forward recovery utility to recover the catalog. This option provides JCL generation or tailoring assistance.
Utilities	Option U lists 16 different IDCAMS utilities that you can use to maintain a catalog. The Utilities option gives you the facility to execute the jobs. Some of the jobs can be submitted in either batch mode (B) or foreground (F). Refer to IBM's documentation on IDCAMS, *DFSMS Access Method Services for Catalogs* (SC26-7394-00), for details on these utilities. Use the following internet address to display this IBM book: `http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I200`

Option 3 - Cache

To perform cache management functions, choose option 3, **Cache**, on the SAW main menu. The Cache Management screen will appear:

```
----------------------------- Cache Management -------------------------------

OPTION ===>

System: SYSNAME1                Local Dataplex: MYDPLEX

   1  CACHE SUBSYSTEM - Display CACHE Subsystem/Storage Director

   2  CACHE ANALYSIS  - Execute cache error reporting (online)

   U  UTILITIES       - For cache maintenance
```

The table below describes each option on the Cache Management menu.

Option Name	Description
Cache Subsystem	Option 1 displays a table that contains all available and collected values about cache control units and cache subsystems in the dataplex. You can then do any of the following: • Display all volumes assigned to a specific subsystem. • Display all flagged volumes. A "flagged" volume is a volume that is assigned to a subsystem, but the caching/DFW "target" for that volume is not the same as the "status." • Update the target values (DFW/NVS definitions) for the listed cache subsystem. • Delete all of the table entries for obsolete cache subsystems.
Cache Analysis	When you choose option 2, a cache error report is immediately executed online and the results are displayed. If there are no cache errors, a "no errors" message displays.
Utilities	Option 3 provides two IDCAMS utilities that you can use for cache management, SETCACHE and LISTDATA.

Option 4 - DFHSM

When you select option 4, **DFHSM**, a list of standard IBM DFHSM functions is displayed for your use. The DFHSM Functions screen is shown below.

```
----------------------------- DFHSM Functions --------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  HSEND QUERY       Process HSEND QUERY commands

   2  HSEND HOLD        Process HSEND HOLD commands

   3  HSEND RELEASE     Process HSEND RELEASE commands

   4  HSEND CANCEL      Process HSEND CANCEL commands

   5  AUTH              List DFHSM USER-Authorization

   6  FIXCDS            Change/Display HSM-CDS via FIXCDS Command

   7  AUDIT             Activate AUDIT for MCDS/BCDS

   8  LIST              List Information from DFHSM Control data sets

   9  ADDVOL            Execute ADDVOL command

  10  DELVOL            Execute DELVOL command

  11  CDS RECOVERY      Enhanced DFHSM CDS Recovery

  12  CHECK CDS         Look if CDS reorganization is required

  13  REORG  SDSP       Reorganize Small Data Set Packing on volume ______

  14  REORG  MCDS       Reorganize Migration Control Data Set

  15  REORG  BCDS       Reorganize Backup    Control Data Set

  16  REORG  OCDS       Reorganize Offline   Control Data Set
```

The table below describes each option on the DFHMS menu. For more information on how and when to use each of these functions, refer to IBM documentation on DFHSM, such as the *DFHSM V2R6 Command Reference*, SH35-0083-97. To locate this book on the internet, go to `http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/ARC6SR01`.

Option Name	Description
HSEND QUERY	Option 1 processes all of the HSEND QUERY commands. The query commands are: • *Active*. Query all activities. • *ML2*. Query all migrations to level 2 volumes and keys. • *Backup*. Query all active backup volumes and parameter. • *CDS*. Query the status of control data sets. • *User*. Query user requests. • *Pool*. Query defined pools. • *Retain*. Query data sets or qualifiers prevented from space management. • *SETSYS*. Query HSM control parameters. • *Startup*. Query startup parameters. • *Statistics*. Query daily statistics. • *Waiting*. Query all waiting requests. • *ABARS*. Query ABARS status. • *CSALIMITS*. Query CSALIMITS.
HSEND HOLD	Option 2 processes all of the HSEND HOLD commands. HOLD is used to suspend various HSM functions, which are listed below. • ABACKUP • ALL • ARECOVER • AUDIT • AUTOMIGRATION • BACKUP • DUMP • EXPIREBV • LIST • LOG • MIGRATION • RECALL • RECOVER • RECYCLE • REPORT • TAPECOPY • TAPEREPL
HSEND RELEASE	Option 3 processes HSEND RELEASE commands. RELEASE commands are used to resume various HSM function that were suspended by a HOLD command. These functions are the same functions as listed in the HSEND HOLD description above.
HSEND CANCEL	Option 4 processes HSEND CANCEL commands.

Option Name	Description
AUTH	Option 5 lists DFHSM USER authorizations.
FIXCDS	Option 6 uses the FIXCDS command to display or delete various control records in the HSM Control Data Set. **Note:** This command should only be used by highly qualified personnel.
AUDIT	Option 7 activates AUDIT for MCDS/BCDS.
LIST	Option 8 lists information from DFHSM control data sets.
ADDVOL	Option 9 executes the ADDVOL command.
DELVOL	Option 10 executes the DELVOL command.
CDS RECOVERY	Option 11 enhances DFHSM CDS recovery.
CHECK CDS	Option 12 allows you to determine whether a CDS reorganization is required.
REORG SDSP	Option 13 reorganizes a Small Data Set Packing cluster on the volume you specify.
REORG MCDS	Option 14 reorganizes a migration control data set.
REORG BCDS	Option 15 reorganizes a backup control data set.
REORG OCDS	Option 16 reorganizes an offline control data set.

Option 5 - Reporting

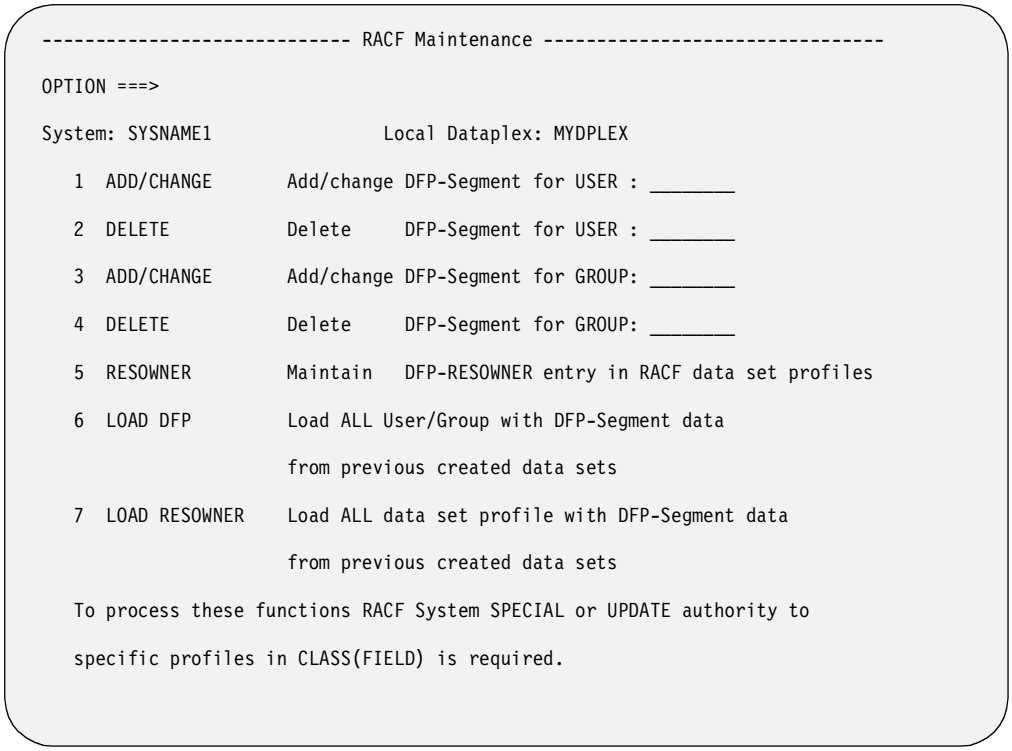
To view the reports and outputs generated by SAW, choose option 5, **Reporting**, on the SAW main menu. The Reports screen displays:

```
----------------------------- Reports -----------------------------------------

OPTION ==>

System: SYSNAME1               Local Dataplex: MYDPLEX

  Specify Y or N to select print capability    : N

          Y or N to select all dataplex reports: Y

  C1 - Catalog Exceptions

Application and Storage Reports         DFHSM Reports

  S1 - Hierarchy View                     L1 - LOGSCAN Summary Report

  S2 - Application View with SG/Pool      L2 - Migrate Actions File

  S3 - SG/Pool View                       L3 - Backup Actions File

  S4 - User Report (Hierarchy View)       L4 - DFHSM Activity Log

  S5 - Exceptions

                      Pool and Volume Reports

  D1  - Data Set Reports                  D6  - Packmap

  D2  - Volume/Pool Reports               D7  - Volume List

  D3  - Exceptions

                                          D14 - ATL tape errors
```

To select a report, enter the code that is listed in front of the report name in the Option line and press Enter. The report will display. If the output is a GDS/GDG, then a list of available reports will be displayed.

Option 6 - RACF

To manage different fields from RACF, choose option 6, **RACF**, on the SAW main menu. The RACF Maintenance screen is shown below:



The table below describes each option on the RACF Maintenance menu. To process these functions, you are required to have RACF System SPECIAL or UPDATE authority to specific profiles in CLASS(FIELD).

Note: All occurrences of "DFP" in the table below are referring to the "Data Facility Product", which is a facility that controls access to expanded storage.

Option Name	Description
ADD/CHANGE	Option 1 allows you to add or change the DFP-Segment for the listed user. You can change the name of the application, data class, management class, and storage class.
DELETE	Option 2 allows you to delete the DFP-Segment for the listed user.
ADD/CHANGE	Option 3 allows you to add or change the DFP-Segment for the listed group. You can change the name of the application, data class, management class, and storage class.
DELETE	Option 4 allows you to delete the DFP-Segment for the listed group. You can alter the name of the application, data class, management class, and storage class.
RESOWNER	Option 5 maintains the DFP-RESOWNER entry in the RACF data set profile. You can display or change an active DFP segment for a RACF data set profile.

Option Name	Description
Load DFP	Option 6 reads the User/Group DFP data from previously created data sets, then displays the data in an ISPF table format. If you specify "all", then all User/Group entries are displayed. If the field is blank, only User/Group entries with existing DFP- segment information are displayed.
Load RESOWNER	Option 7 reads the data set profile data from previously created lists, then displays the data in an ISPF table format. If you specify "all", then all of the profile entries are displayed.

Option 7 - ADSM

Option 7, **ADSM**, on the SAW main menu allows you to work in interactive mode by invoking the ADSM ISPF dialog.

Option A - ATL

To perform management tasks for an automated tape library (ATL), choose option A, **ATL**, on the SAW main menu. The ATL General Information screen displays.

Note: A DCOLLECT job must have been executed prior to using the ATL option. To create the JCL used for a DCOLLECT job, refer to option S.2.8 from the SAW main menu. This is the System JCL option on the Dataplex and System Maintenance menu. When you choose this option, you can make entries in a number of fields to customize the JCL and generate it. Once you have done this, the appropriate data will be collected and can be displayed. Use the ATL option on the SAW main menu to view the data related to the automated tape library.

Information provided about each tape machine includes:

- Machine ID and type
- The total number of physical slots on that machine, as well as the number of slots being used and the number of slots that are empty.
- The total number of logical volumes, as well as the number of scratch volumes and shelf volumes. This is a summary of data collected in any system sharing this robot.
- The total number of delta volumes and the number of scratch delta volumes. Delta columns are useful in detecting abnormal situations, such as differences between reports that are obtained using the "LIBENTRY" IDCAMS command and a summary report.
- A "VTS" flag to indicate when the number of logical volumes is much greater than the number of physical used slots.
- A "SYS" column to indicate the number of images that are using this robot.

The only line command available for use on the ATL General Information screen is the **S** (select) line command. Type it next to the ID of the tape machine that you want to review, and press Enter. The ATL Detailed Information screen displays.

The details listed on this screen include the:

- name of the dataplex, system, and library
- percentage of space used
- number of volumes used on each media.

- number of shelf volumes
- total number of volumes for each media type (Media1, Media2, etc.)
- number of private and scratch volumes
- maximum number of scratch tapes allowed for a job, referred to as the scratch threshold
- number of volumes that contain errors
- number of volumes that are write protected.

Some of these columns are displayed when you page right. All of this information can be used to monitor the usage of the ATL, and to see what changes need to be made to use the ATL more efficiently.

Note: ATL data that is related to a local dataplex is written to the Storage Administration Inventory (SAI). ATL data that is related to a remote dataplex will be available only if the remote SAI has been received.

Option U - Utilities

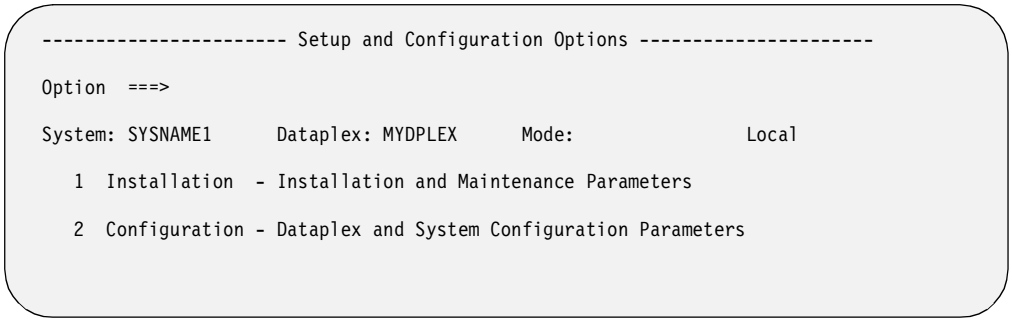
To run one or more utilities related to storage management, choose option U, **Utilities**, on the SAW main menu. The Utilities menu displays:

```
 ----------------------------- Utilities ----------------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  CAMS            Catalog Access Method Services using IDCAMS

   2  DFDSS           Data Storage Services using ADRDSSU

   3  DSF             Device Support Facilities using ICKDSF
```

The three types of utilities available are IDCAMS, DFDSS, and ICKDSF. When you choose one of these options, another menu appears that lists all of the available utilities for that option. Each of these options is based on file tailoring from a skeleton library. A description of each option and its corresponding JCL skeleton are described in the Chapter 7, "Using Utilities" on page 147.

Option S - Setup and Configuration

The first time you use SAW, you will need to perform customization steps for your environment. You may also need to make additional changes for maintenance when there are significant changes in your system or in how you use Storage Administration Workbench. Select option S, **Setup and Configuration**, on the SAW main menu to perform customization.



These options are described in detail in Chapter 3, "Installing Storage Administration Workbench" on page 19. Refer to that chapter for more information on installation, and dataplex and system customization.

Chapter 3. Installing Storage Administration Workbench

Follow the installation instructions in the Program Directory to copy the product libraries onto your system. Once you have copied the SAW libraries from the tape, you must perform additional installation steps to set up Storage Administration Workbench for use with your environment. This chapter provides information on what to do to install Storage Administration Workbench (SAW) and make it work in your environment.

Installation summary

You must perform the installation steps in the order listed below. This chapter walks you through each step.

Step	Description	Reference
1	Modify security requirements.	"Step 1: Modify security sample" on page 20
2	Allocate data sets and populate them.	"Step 2: Modify allocation sample" on page 20
3	Force a high level qualifier.	"Step 3: Modify the high level qualifiers" on page 20
4	Copy and update the startup clist and REXX exec.	"Step 4: Modify the AWB start up CLIST" on page 20
5	Start SAW.	"Step 5: Start SAW" on page 21
6	Customize batch jobs and data collection jobs.	"Step 6: Set up batch jobs" on page 23
7	Customize job cards.	"Step 7: Set up job cards" on page 24
8	Set up any other defaults you need for your environment.	"Step 8: Set up additional defaults" on page 24
9	Define the systems you need for your environment.	"Step 9: Defining a system for a dataplex" on page 38
10	Define and customize a dataplex.	"Step 10: Defining a dataplex" on page 42

Steps for installing SAW

After the SAW SMP/E steps have been successfully completed, as instructed in the Program Directory, you are ready to install SAW. To do this, you will modify several of the sample JCL members in the *.*.SAMPLIB library, where *.* refers to the high level qualifiers selected for your site. The instructions for modifying the sample members are listed at the top of each member. In addition, you will set up defaults for your environment.

Note: Be sure to check that the load library containing the SAW data sets is an APF-authorized library. Contact your systems administrator if you have any questions concerning APF authorization.

Step 1: Modify security sample

There are two SAMPLIB members that you can use for setting up the necessary security for using SAW in your environment, AWBRACF for RACF security and AWBTSS for Top Secret security. Choose the member that is appropriate for your site, modify it as instructed in the member, then execute it.

If you use RMM for tape management, you also need to modify the AWBCRMM sample member to set up security for RMM.

Step 2: Modify allocation sample

To allocate the required data sets and populate them, modify and run the AWBALLOC sample member. Additional jobs you need to run after AWBALLOC are listed below:

1. If you use TLMS or CA1 products, modify and run sample member AWBTLM.
2. If you have RMM installed, modify and run sample member AWBRMM.
3. If you run AWBRMM, you must also modify and run AWBIRMM to establish internal data sets that are required for SAW to support RMM.

Step 3: Modify the high level qualifiers

Modify the AWBFORCE sample member, which forces a high level qualifier and a second level qualifier for the SAW data sets. Execute this member when you are done modifying it.

Step 4: Modify the AWB start up CLIST

To access Storage Administration Workbench (SAW), you must copy the following members to the appropriate libraries in your environment, and update them.

- *AWB.* This CLIST is found in the *.*.SAMPLIB library. Copy AWB to your system CLIST library and modify it for your site.
- *AWBEXEC*. This is a REXX EXEC that is in the *.*.SAMPLIB library. Copy AWBEXEC to your system EXEC library, such as SYS1.EXEC, and modify it for your site.

When you run the AWB CLIST to start SAW, it automatically executes AWBEXEC. Both of these items are used to start up the SAW panels.

Step 5: Start SAW

To start the SAW product, type `TSO %AWB`. The steps below outline what happens when you type this command.

1. When you start SAW with the `TSO %AWB` command, the first screen you will see depends on the number of dataplexes you can access:
   - *If you have defined only one dataplex*, the SAW main menu displays. Skip step 2 below and continue onto step 3 to see the SAW main menu. When you first install SAW, there will not be any dataplexes defined, so the SAW main menu appears. You will define and customize a dataplex later in this chapter.
   - *If you have defined two or more dataplexes*, you must choose which dataplex you want to use with SAW. Refer to step 2 below for instructions.
2. If you have more than one dataplex, the screen lists all of the dataplexes so you can choose which dataplex you want to use with SAW. An example of this screen is shown below:

```
---------------------------- SAW/MVS V1.1.0 --------------------- Row 1 of 6

COMMAND ==> _

Enter S in front of one dataplex or use PF15 to end.

                                                                    Unload
Dataplex Mode  Acc Typ Location description                      date    time
-------- ----- --- --- ---------------------------------------- ------- -----

_ MEFSB  L A   U   M   MVS/ESA Test

_ MEFSL  R T   U   M   MVS/ESA TEST AO                          2002013 09:47

_ VEFS7  P A   U   V   VM/ESA TEST                              2002313 14:30

_ MEFSM  R T   U   M   MVS/ESA INTEGRATION TEST                 2002036 04:22

_ VEFMA  R U   U   V   MONTPELLIER                               2002032 06:19

_ VEFS7  R     U   V   VM/ESA TEST                              2002031 03:00

_ VEUF1  R     U   V   SINGLE OFFICE VISION                     2002031 03:04

****************************** Bottom of data ********************************
```

   In the example above, there are seven dataplexes listed on the screen. The fields are described below:

Column Name	Description
Dataplex	The one- to eight-character name of the dataplex. Follow the conventions for naming a dataset.
Mode	The mode is the type of dataplex. Valid types are: • L A - Local administrative dataplex • P A - Remote dataplex processed in local • R T - Remote target dataplex • R - Remote dataplex

Column Name	Description
Acc	The account column indicates the type of access you have for the dataplex. The access types are: • N - None • R - Read • U - Update
Type	This column refers to the type of system where the dataplex resides. The valid types are: • M - MVS • V - VM
Location description	This contains a brief description indicating where the dataplex is located.
Unload date	This column indicates when the storage administration inventory (SAI) for the remote dataplex was unloaded from its home system. The format of the date is YYYYDDD, which is a Julian date. For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091.
Unload time	This column indicates the time that the storage administration inventory (SAI) for the remote dataplex was unloaded from its home system. The format of the time is HH:MM.

Enter **S** next to the dataplex you want, and press Enter.

3. Once you have chosen a dataplex, or if you have only one dataplex, the SAW main menu displays.

```
 ---------------------- SAW V1.1.0 Main Menu ---------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   0  Common Tasks - Routine actions

   1  DASD         - DASD Related Functions

   2  CATALOG      - Catalog Related Functions

   3  CACHE        - Cache Related Functions

   4  DFHSM        - DFHSM Related Functions

   5  REPORTING    - Display Reports and Exceptions

   6  RACF         - Maintain RACF criteria used in Storage Management

   7  ADSM         - Interactive mode for id: MYUSERID

   A  ATL          - Automated Tape Library Functions

   R  RVA          - Ramac Virtual Array Functions

   U  UTILITIES    - Common Utilities Used in Storage Management

   S  Setup        - SAW Setup and Configuration
```

Step 6: Set up batch jobs

WARNING: *You must complete this step to use SAW.*

You need to set up SAW batch jobs and data collection jobs before you can run them. The **ISPF Environment** option displays the allocation statements that are used in each ISPF batch process that is scheduled or generated by Storage Administration Workbench tasks. Modify the ISPF environment allocations and data set names to your standards. To access the ISPF Environment option, follow these steps:

1. On the SAW main menu, choose option S, **SAW Setup and Configuration**.
2. On the Setup and Configuration Options menu, choose option 1, **Installation**.
3. On the Installation and Maintenance menu, choose option 7, **ISPF Environm**.

The next screen is an ISPF edit panel with a JCL skeleton for your review. This sample JCL displays when you choose the ISPF Environment option (S.1.7 from the SAW main menu). Modify the variables in this sample, identified with an ampersand (&), to fit your environment. Save your changes and exit the editor. The allocation statements will be included in other JCL generated by SAW.

```
//*                                                          --AWBS125 S -

//SYSTSPRT DD  SYSOUT=*

//SYSPRINT DD  SYSOUT=*

//ISPPROF  DD  DISP=OLD,DSN=&SMPHLQ..AWBO45F

//SYSPROC  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..EXEC

//SYSEXEC  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..EXEC

//ISPPLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..PANELS

//ISPMLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..MSGS

//         DD  DISP=SHR,DSN=SYS1.SISPMENU

//ISPSLIB  DD  DISP=SHR,DSN=&DASSKEL..&$DPLEX

//         DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..SKELS

//ISPLLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..LOAD

//ISPTABL  DD  DISP=SHR,DSN=&DASTABL..&$DPLEX

//ISPTLIB  DD  DSN=&&&&ISPTLIB,UNIT=VIO,DSORG=PO,RECFM=FB,

//             LRECL=80,BLKSIZE=6160,SPACE=(80,(200,200,45))

//         DD  DISP=SHR,DSN=&SMPHLQ..AWBO45F

//         DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..TABLES

//         DD  DISP=SHR,DSN=&DASTABL..&$DPLEX

//ISPLOG   DD  DUMMY

//ISPLIST  DD  SYSOUT=*,DCB=(RECFM=FBA,LRECL=121,BLKSIZE=1210)

//*                                                          --AWBS125 E -
```

Step 7: Set up job cards

The next step in the installation process is to define the job cards that will be used for any batch jobs that SAW initiates. To modify a jobcard to your installation standards, select option 1, **Jobcard 1**, on the Installation and Maintenance screen (option S.1.1 from the SAW main menu). A JCL skeleton displays for you to edit. This JCL skeleton will be included in every JCL job generated by SAW.

For an additional jobcard, select option 2, **Jobcard 2**, on the Installation and Maintenance screen (option S.1.2 from the SAW main menu), and edit the JCL skeleton that displays. Normally this should not be necessary, because the default definitions are designed in a way that you should be able to run this on JES2 and JES3.

The defaults are set to:

- MSGLEVEL=(1,1)
- TIME=1439
- LINES=9999

ROUTE XEQ statements are generated if the JOB should be executed on a different JES cluster, otherwise this statement is suppressed. If there is a different JES cluster, the submitting user ID will be prompted for PASSWORD specification.

Step 8: Set up additional defaults

There are other defaults you may want to modify for your environment. You do this by entering or editing values through the Installation and Maintenance option. To access this option, follow these steps:

1. Select option S, **SAW Setup and Configuration**, on the SAW main menu.
2. Select option 1, **Installation and Maintenance Parameters**, on the Setup and Configuration Options menu.

The following screen displays:

```
 ----------------------------- Installation and Maintenance --------------------
OPTION ===>
System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  JOBCARD 1       Modify the jobcard to your local standard

   2  JOBCARD 2       Modify the jobcard to your local standard

   3  JCLLIB          Modify default JCLLIB specification

   4  STEPLIB         Modify default STEPLIB specification

   5  SORTCNTL        Modify default SORTCNTL specification

   6  SORTWORK        Modify default SORTWORK specification

   7  ISPF ENVIRONM.  Modify the BATCH ISPF allocation to your local standard

   8  RECEIVE STC     Modify the STC ISPF allocation to your local standard

   9  SDC VARIABLES   Modify SDC variables

  10  NICKNAMES       Modify PDJOHN.NAMES.TEXT for transmission

  11  UNCAT-DELETE    Modify the default which is used in housekeeping

  12  RELEASE         Modify the default which is used in housekeeping

  13  COMPRESS        Modify the default which is used in housekeeping

  14  DEFRAG          Modify the default which is used in housekeeping

  15  SPECIAL DELETE  Modify the default which is used in housekeeping

  16  On/offsite      Modify the default which is used for backup processing

  17  EXPIREBV        Modify EXPIREBV values

  18  TAPE device     Tape device assignment modifications

  19  Phy.Dev.Job1    Mass update of string assigment Job 1 prepare

  20  Phy.Dev.Job2    Mass update of string assigment Job 2 update
```

Options 1 and 2: Jobcards

The jobcard options are described in “Step 7: Set up job cards” on page 24. Refer to that section for more information.

Option 3: JCLLIB

When JES3 Version 4.2 and JES2 Version 4.1 JCLLIB support is available, you do not need to copy your procedures to an active (JES known) PROCLIB data set. Instead, your private PROCLIB data set can be used by coding the JCLLIB statement.

If the required JES version is not available on your dataplex, select option 3, **JCLLIB**, on the Installation and Maintenance screen (option S.1.3 from the SAW main menu) to inactivate the JCLLIB usage. This can be done either by changing the displayed data to a comment (//* in front of the line) or by deleting the whole statement.

Note: If procedures should be used and JCLLIB is not active, the contents of the provided PROCLIB data set must be copied to an active JCL procedure data set (PROCLIB).

Option 4: STEPLIB

Select option 4, **STEPLIB,** on the Installation and Maintenance menu (option S.1.4 from the SAW main menu) to modify the default values for STEPLIB processing. The sample is shown below:

```
//STEPLIB DD DSN=&SMPHLQ..&SMPSLQ..LOAD,DISP=SHR 00010000
```

Option 5: SORTCNTL

Select option 5, **SORTCNTL**, on the Installation and Maintenance menu (option S.1.5 from the SAW main menu) to modify the default values for SORTCNTL processing. The sample is shown below:

```
OPTION HIPRMAX=0,SIZE=E5000,MAINSIZE=2000K 00010000
```

Option 6: SORTWORK

Select option 6, **SORTWORK**, on the Installation and Maintenance menu (option S.1.6 from the SAW main menu) to modify the default values for SORTWORK processing. The sample is shown below:

```
//SORTWK01 DD SPACE=(CYL,(50,10),,CONTIG),UNIT=&SORTDEV

//SORTWK02 DD SPACE=(CYL,(50,10),,CONTIG),UNIT=&SORTDEV

//SORTWK03 DD SPACE=(CYL,(50,10),,CONTIG),UNIT=&SORTDEV

//* SUPPRESS //* IN THE THREE FOLLOWING CARDS FOR SYNCSORT

//*//$ORTPARM DD *

//* INCORE=OFF

//*/*

//* END OF SYNCSORT MODIFICATIONS
```

You can change the number of SORTWORKs or the space size. You can also add special DDNAMEs for a non-IBM sort product.

Option 7: ISPF Environment

This option is described in a previous section, “Step 6: Set up batch jobs” on page 23. Refer to that section for more information.

Option 8: AWBSTC

Note: You can ignore this step if you have only one system defined in your dataplex. Perform this step only if you are integrating data from multiple systems.

Select option 8, **Receive STC**, on the Installation and Maintenance menu (option S.1.8 from the SAW main menu) to display the allocation statements that are used in the AWBSTC process. Modify the ISPF Environment allocations and data set names to your standards.

```
//**-------------------------------------------------------------
//* STC TO RECEIVE DATA FOR STORAGE MANAGEMENT
//**-------------------------------------------------------------
//* COPY ISPF PROFILE ON TEMPORARY TO AVOID ENQUEUES ON BATCH JOBS
//COPYPRF  EXEC PGM=IEBCOPY
//SYSIN    DD DUMMY
//SYSPRINT DD SYSOUT=*
//SYSUT1   DD  DISP=SHR,DSN=&SMPHLQ..AWB045F
//SYSUT2   DD  DISP=(,PASS),DSN=&&ISPPROF,
//         SPACE=(TRK,(45,45,90)),UNIT=SYSDA,
//         DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160,DSORG=PO)
//*-------------------------------------------------------
//AWBSTC   EXEC PGM=IKJEFT01,DYNAMNBR=99,REGION=0M,
//             PARM=('ISPSTART CMD(%AWBE001)',
//             'NEWAPPL(AWB) BDISPMAX(100000)')
//STEPLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..LOAD
//DASDDB   DD  DISP=SHR,DSN=&VI
//DASDLOCK DD  DISP=SHR,DSN=&VILOCK
//ISPPROF  DD  DISP=(OLD,PASS),DSN=&&ISPPROF
//DPLEXOUT DD  DISP=(,PASS),DSN=&&WORK1,UNIT=VIO,
//             SPACE=(TRK,(45,45),RLSE),
//             DCB=(RECFM=FB,LRECL=1000,BLKSIZE=0,DSORG=PS)
//SYSPROC  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..EXEC
//SYSEXEC  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..EXEC
//ISPPLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..PANELS
//ISPMLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..MSGS
//         DD  DISP=SHR,DSN=SYS1.SISPMENU
//ISPSLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..SKELS
//ISPLLIB  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..LOAD
//ISPTABL  DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..TABLES
//ISPTLIB  DD  DSN=&ISPTLIB,UNIT=VIO,DSORG=PO,RECFM=FB,
//             LRECL=80,BLKSIZE=6160,SPACE=(80,(200,200,45))
//         DD  DISP=SHR,DSN=&SMPHLQ..&SMPSLQ..TABLES
//         DD  DISP=SHR,DSN=SYS1.SISPTENU ###
//ISPLOG   DD  DUMMY
//ISPLIST  DD  SYSOUT=&SCLASS,DCB=(RECFM=FBA,LRECL=121,BLKSIZE=1210)
//SYSPRINT DD  SYSOUT=&SCLASS
//SYSTSPRT DD  SYSOUT=&SCLASS
//SYSTSIN  DD  DUMMY
//**-------------------------------------------------------------
```

All variables are indicated by the ampersand character (&), and will be filled with customized values during the JCL generation process.

Note: If changes have been made to this ISPF environment, re-generate the AWBSTC procedure with option 5, **Receive STC**, on the Dataplex and System Maintenance screen (option S.2.5 from the SAW main menu).

Option 9: SDC variables

Use option 9, **SDC variables**, on the Installation and Maintenance menu (option S.1.9 from the SAW main menu) to check or change SDC variables. Here is the default provided at installation:

```
/* REXX ***************************************************************/
/**********************************************************************/
/* (C) COPYRIGHT INTERNATIONAL BUSINESS MACHINES CORPORATION 2002,    */
/*    ALL RIGHTS RESERVED.                                            */
/**********************************************************************/
/* SKELS NAME :       AWBS322                                         */
/*                                                                    */
```

```
/* DESCRIPTION :      SDC Variables                                    */
/*                                                                     */
/* STATUS :           Storage Administration Workbench 1.1.0           */
/*                                                                     */
/* NOTES :            This is REXX language.                           */
/*                                                                     */
/* CHANGE ACTIVITY :                                                   */
/*                                                                     */
/* Creation 01/95 TE SMP                                               */
/*********************************************************************/
MCGMOD = "NOEMPTY"
/* MCGMOD: GDG MODE (EMPTY/NOEMPTY)                                   */
MCGSCR = "SCRATCH"
/* MCGSCG: GDG SCRATCH OPTION                                         */
HSMACT = "HSMACT"
/* HSMACT: DFHSM activity log prefix                                  */
DVC = "15"
/* DVC: Onsite backup tape volume count                               */
VVC = "15"
/* DVC: Offsite backup tape volume count                              */
DUC = "4"
/* DUC: Onsite backup DASD unit count                                 */
*/
```

All variables are in REXX language. For example, you can change the default HLQ (HSMACT) to fit your DFHSM installation.

Option 10: Nicknames

Select option 10, **Nicknames**, on the Installation and Maintenance menu (option S.1.10 from the SAW main menu) to modify the given NICK name sample for transmission processing. The recommended values SAWR, SARA and SA should be kept according to the customization done previously. “Step 10: Defining a dataplex” on page 42.

Options 11-15

Options 11 - 15 on the Installation and Maintenance menu (options S.1.11 - S.1.15 on the SAW main menu) can be used to display or modify the default values for housekeeping functions.

The default will be used if no specific selection was made, or as a skeleton for the specific definitions during the DASD Storage Administration Inventory (SAI) dialog.

Note: In all of the JCL examples that follow, the variables, which are indicated by the ampersand character (&), will be substituted during the JCL generation process.

Uncatalog Delete: Select option 11, **UNCAT-DEL**, to review or modify the default specification for the housekeeping process, UNCATALOG DELETE.

```
/*-------------------------------------------------------------------*/

/* DELETE UNCATALOGED DATA SETS &#VOLSER                             */

/* CREATED BEFORE YESTERDAY AND WITH A USED SPACE HIGHER THAN 0      */

/*-------------------------------------------------------------------*/

DUMP OUTDDNAME(DUMMY) COM ALLDATA(*) ALLEXCP INDY(&#VOLSER) -

DATASET(EXCLUDE(SYS1.VTOCIX.**,SYS1.VVDS.**) -
```

```
BY((CATLG,EQ,NO) (CREDT,LT *,-1) (FSIZE,GT,0))) -

DELETE PURGE
```

Release Unused Space: Select option 12, **Release**, to review or modify the default specification for the housekeeping process, RELEASE UNUSED space.

```
/*-------------------------------------------------------------------*/
/* RELEASE UNUSED SPACE &#VOLSER                                     */
/*-------------------------------------------------------------------*/
RELEASE INCLUDE(**) EXCLUDE(SYS1.**) -
BY((CREDT LT *,-1)) MINSEC(0) DYNAM(&#VOLSER)
```

Compress: Select option 13, **Compress**, to review or modify the default specification for the housekeeping process, COMPRESS.

```
/*-------------------------------------------------------------------*/
COMPRESS INCLUDE(**) EXCLUDE(**.LINKLIB) -
DYNAM(&#VOLSER) WAIT(1,1)
```

Defrag: Select option 14, **Defrag**, to review or modify the default specification for the housekeeping process, DEFRAG.

```
/*-------------------------------------------------------------------*/
DEFRAG FRAGI(3) DYNAM(&#VOLSER) BY(LIST(REFDT LT *,-1)) -
EXCLUDE(LIST(SYS1.RACF*,SYS1.RACF*.**, -
SYS1.HASP*,SYS1.HASP*.**)) -
MAXMOVE(9999)
```

Special Delete: Select option 15, **Special Delete**, to review or modify the default specification for the housekeeping process, Special DELETE.

Note: Option 15 should be skipped during the first customization process.

```
/*-------------------------------------------------------------------*/
DUMP OUTDDNAME(DUMMY) COM ALLDATA(*) ALLEXCP INDY(&#VOLSER) -
DATASET(EXCLUDE(SYS1.VTOCIX.**, -
                SYS1.VVDS.**)   -
        INCLUDE(TO_BE_COMPLETED -
                        )       -
        BY(CREDT,LE *,-10)      -
       ) DELETE PURGE
```

Option 16: On/Offsite

Option 16, **On/Offsite**, on the Installation and Maintenance screen (option S.1.16 from the SAW main menu) enables you to adjust the default algorithm used for backups made onsite and offsite. The following screen displays when you choose option 16, **On/Offsite**:

```
----------------------------- On/offsite Backup Default Maintenance -----------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                 Local

---------------------------------Onsite Backup -------------------------------

   0  Algorithm A                7  Algorithm O               14  Algorithm W

   1  Algorithm C                8  Algorithm P               15  Algorithm X

   2  Algorithm D                9  Algorithm Q               16  Algorithm 1

   3  Algorithm F               10  Algorithm R               17  Algorithm 4

   4  Algorithm G               11  Algorithm T               18  Algorithm 7

   5  Algorithm I               12  Algorithm U               19  Algorithm 9

   6  Algorithm N               13  Algorithm V

 --------------------------------Offsite Backup -------------------------------

  30  Algorithm O               34  Algorithm X               43  Algorithm 7

  31  Algorithm R               40  Algorithm O               44  Algorithm 9

  32  Algorithm U               41  Algorithm 1

  33  Algorithm W               42  Algorithm 4
```

The table below briefly describes what each algorithm does and which data set members are being used to create this algorithm. When you choose an algorithm, the skeleton for the algorithm is automatically displayed in an edit session.

Notes:

1. It is recommended that you do not modify these algorithms. The names used for the backup files conform to a standard that is used by the SAW RESTORE function. If you change the DSN of the output, the RESTORE function will not find it. Also, if you change the algorithm skeleton, the type of backup will not correspond to what is on the screen For example, if you change algorithm A (AWBS436) to backup VSAM instead of PDS's, you might expect it to backup a PDS as described on the screen. If you change a skeleton, be sure to note the new functionality so you do not forget how it was altered.
2. For any of the options that do not produce FULL dumps, if a data set is unavailable, SAW waits 30 seconds before retrying, with a limit of 10 retries (WAIT (30,10)). Data sets are processed even though shared or exclusive access fails (TOL(ENQF)).

Options 0 - 19, which are listed in the following table, are for onsite backups.

Table 2.

Option Name	Member Name	Skeleton Name	Description of Algorithm
0 - Algorithm A	AWBS0$A	AWBS436	Onsite backup. Using data compression, SAW performs a dump of all partitioned data sets (PDS or PDSE). The backup data is stored on DASD.

Table 2. (continued)

Option Name	Member Name	Skeleton Name	Description of Algorithm
1 - Algorithm C	AWBS0$C	AWBS437	Onsite backup. Using data compression, SAW performs a dump to DASD of any partitioned data sets that have been modified since the last dump.
2 - Algorithm D	AWBS0$D	AWBS438	Onsite backup. Using data compression, SAW performs a dump to DASD of all sequential and partitioned data sets.
3 - Algorithm F	AWBS0$F	AWBS439	Using data compression, SAW performs a dump to DASD of any sequential or partitioned data sets that have been modified since the last dump.
4 - Algorithm G	AWBS0$G	AWBS440	Using data compression, SAW performs a dump of all VSAM data sets to DASD.
5 - Algorithm I	AWBS0$I	AWBS441	Using data compression, SAW dumps all allocated tracks on the volume to a DASD output data set.
6 - Algorithm N	AWBS0$N	AWBS442	Using data compression, SAW performs a dump of all partitioned data sets (PDS and PDSE) to DASD.
7 - Algorithm O	AWBS0$O	AWBS443	Using data compression, SAW performs a dump of all partitioned data sets to a tape.
8 - Algorithm P	AWBS0$P	AWBS444	Using data compression, SAW performs a dump to DASD of any partitioned data sets that have been modified since the last dump.
9 - Algorithm Q	AWBS0$Q	AWBS469	Using data compression, SAW performs a dump of all sequential and partitioned data sets to DASD.
10 - Algorithm R	AWBS0$R	AWBS445	Using data compression, SAW performs a dump of all sequential and partitioned data sets to a tape.
11 - Algorithm T	AWBS0$T	AWBS446	Using data compression, SAW performs a dump of all VSAM data sets to DASD.
12 - Algorithm U	AWBS0SU	AWBS447	Using data compression, SAW performs a dump of all VSAM data sets to a tape.
13 - Algorithm V	AWBS0$V	AWBS448	Using data compression, SAW dumps all of the allocated tracks on the volume to a DASD output data set.
14 - Algorithm W	AWBS0$W	AWBS449	Using data compression, SAW performs a dump of all allocated data to a tape.
15 - Algorithm X	AWBS0$X	AWBS450	SAW performs a dump of all allocated data to a tape without data compression. **Note:** The tape device may already be set to perform data compression through hardware capabilities.
16 - Algorithm 1	AWBS0$1	AWBS451	Using data compression, SAW performs a dump of all partitioned data sets (PDS and PDSE) to a tape.

Table 2. (continued)

Option Name	Member Name	Skeleton Name	Description of Algorithm
17 - Algorithm 4	AWBS0$4	AWBS452	Using data compression, SAW performs a dump of all sequential and partitioned data sets to a tape.
18 - Algorithm 7	AWBS0$7	AWBS453	Using data compression, SAW performs a dump of all VSAM data sets to a tape.
19 - Algorithm 9	AWBS0$9	AWBS454	Onsite backup. Using data compression, SAW performs a dump of all allocated data to a tape.

Options 30-44, which are listed in the next table, are for offsite backups.

Table 3.

Option Name	Member Name	Skeleton Name	Description of Algorithm
30 - Algorithm O	AWBS0@O	AWBS455	Using data compression, SAW performs a dump of all partitioned data sets (PDS and PDSE) to a tape.
31 - Algorithm R	AWBS0@R	AWBS456	Using data compression, SAW performs a dump of all sequential and partitioned data sets to a tape.
32 - Algorithm U	AWBS0@U	AWBS457	Using data compression, SAW performs a dump of all allocated data to a tape.
33 - Algorithm W	AWBS0@W	AWBS458	Using data compression, SAW performs a dump of all allocated data to a tape.
34 - Algorithm X	AWBS0@X	AWBS459	SAW performs a dump of all allocated data to a tape, without data compression. **Note:** The tape device may already be set to perform data compression through hardware capabilities.
40 - Algorithm 0	AWBS0@0	AWBS460	SAW performs a dump of all allocated data to tape, without data compression. **Note:** The tape device may already be set to perform data compression through hardware capabilities.
41 - Algorithm 1	AWBS0@1	AWBS461	Using data compression, SAW performs a dump of all partitioned data sets (PDS and PDSE) to a tape.
42 - Algorithm 4	AWBS0$4	AWBS462	Offsite backup. Using data compression, SAW performs a dump of all sequential and partitioned data sets to a tape.
43 - Algorithm 7	AWBS0$7	AWBS463	Offsite backup. Using data compression, SAW performs a dump of all VSAM data sets to a tape.
44 - Algorithm 9	AWBS0@9	AWBS464	Offsite backup. Using data compression, SAW performs a dump of all allocated data to a tape.

Option 17: EXPIREBV

Select option 17, **EXPIREBV**, from the Installation and Maintenance menu (option S.1.17 from the SAW main menu) to modify the default values for EXPIREBV processing. The provided sample is shown below:

```
HSEND EXPIREBV EXECUTE NONSMSVERSIONS(CATALOGEDDATA(31))
HSEND EXPIREBV EXECUTE NONSMSVERSIONS(UNCATALOGEDDATA(7))
```

Option 18: Tape Device

Select option 18, **Tape Device**, from the Installation and Maintenance menu (option S.1.18 from the SAW main menu) to modify the default values for the tape device assignment. The figures on the next several pages show a sample of skeletons to help you with defaults and how they are used.

The first box shows the keyword and syntax for the tape device assignment.

```
STATEMENTS IDENTIFIER:

       DEFAULT
       IF ROBOT(
       IF RMM(
       IF TLMS(
       IF CA1(
       IF VOLSER(
       THEN
       END-IF
       END-DEFAULT

  FORMAT:     DEFAULT
              .......
              END-DEFAULT

  FORMAT:     IF ...(
                .... )
               THEN ...
                .......
              END-IF

       MORE THAN ONE "IF"(AND RELATED) CAN BE USED FOR ONE "THEN".
          EG. IF ROBOT(
                .... )
                 RMM(
                .... )
               THEN ...
                .......
              END-IF
```

The following items are guidelines for syntax:

- One "IF" statement can hold more than one compare (in "and" relation) between parentheses.
- More than one "IF" (in "and" relation) can be used for one "THEN", and more than one assignment for one "THEN".
- The check ends at the first "IF" found true.
- Default assignments are unused only if no "IF" has been found true.

The next box lists usable fields in compares, and assignments for tape devices.

```
IF STATEMENTS

   IF ROBOT(
          SUBPARM: LIBRARY (  )       --> LIB NAME
          SUBPARM: RECORDING( )       --> EG. 36TRACK
          SUBPARM: MEDIA-TYPE( )      --> EG. MEDIA2
          SUBPARM: STORAGE-GROUP()    --> EG. MEDIA2
          SUBPARM: COMPACTION ( )     --> EG. YES
          SUBPARM: LOCATION ( )       --> EG. LIBRARY/SHELF

   IF RMM(
          SUBPARM: MEDIANAME ( )      --> USER FIELD
          SUBPARM: MEDIATYPE ( )      --> EG. ECCST
          SUBPARM: DENSITY ( )        --> EG. IDRC
          SUBPARM: RECORDING ( )      --> EG. 36TRACK
          SUBPARM: COMPACTION( )      --> EG. IDRC
          SUBPARM: ATTRIBUTES( )      --> EG. RDCOMPAT

   IF TLMS(
          SUBPARM: LENGTH ( )         --> USER FIELD
          SUBPARM: DEN ( )            --> EG. 36TK
          SUBPARM: TRTCH ( )          --> EG. P
          SUBPARM: TAPETYP ( )        --> USER FIELD

   IF CA1(
          SUBPARM: LENGTH ( )         -->
          SUBPARM: DEN ( )            -->
          SUBPARM: TRTCH ( )          -->
          SUBPARM: LOCID ( )          -->

   IF VOLSER( FROMVOL-TOVOL )         -->VOLSER RANGE
         SUBPARM: FROM VOLSER         --> EG. AAAAAA
         SUBPARM: TO VOLSER           --> EG. 999999
```

The next box contains more information on usable fields in compares, and assignments for tape devices.

```
THEN STATEMENTS

  MANDATORY:
      DEVICE             =  LOGIC DEVICE
      PH_DEVICE          =  PHISICAL DEVICE
      PDF                =  PDF ABBREVIATION
      SCRATCH_POOL       =  NAME OF SCRATCH POOL
      NOSCRATCH_POOL     =  NAME OF NO-SCRATCH POOL
      DEFAULT_BLKSIZE    =  DEFAULT BLKSIZE WHEN BLKSIZE=0
      DEFAULT_BLKSIZE_RECFM_U =
                            DEFAULT BLKSIZE WHEN BLKSIZE=0
                            AND RECFM = U
      CAPACITY            =  CAPACITY IN MB NOT COMPRESSED

  OPTIONAL :
      GAP                 =  DEFAULT = 0
                             GAP BEETWEEN BLOCKS
      RECFM_U_REDUCTION   =  DEFAULT = 100
      RECFM_V_REDUCTION   =  DEFAULT = 100
      RECFM_F_REDUCTION   =  DEFAULT = 100
        THE ABOVE VALUE ARE PERCENTAGE VALUE TO USE
        IN CALCULATING THE ALLOCATION:
        ALLOCATION =(BLKSIZE * BLKCOUNT * REDUCTION) / 1024
```

The rest of the boxes contain a sample of the skeletons, found in member AWBS337, so you can understand how to use them. The skeletons are located in the DASDSKEL.*$dplex* library, where DASDSKEL is your SAW highlevel qualifier and *$dplex* is your dataplex name proceeded by an "L".

```
*====================================================================
*--- LOCAL INSTALLATIONS CAN BUILD THEIR STATEMENTS IN LSKELS
*--- PAYING ATTENTION TO SPECIFY
*---      ALL MANDATORY ASSIGMENTS(THEN) FOR EACH 'IF'
*====================================================================

IF VOLSER(NEVER9-NEVER0)
   THEN
        DEVICE=3590   PH_DEVICE=3590       PDF=3590
        SCRATCH_POOL=  S_3590
        NOSCRATCH_POOL=M_3590
        DEFAULT_BLKSIZE_RECFM_U = 64000
        DEFAULT_BLKSIZE=32760
        CAPACITY = 10000
END-IF
*====================================================================

IF ROBOT( MEDIA-TYPE (MEDIA3) )
   THEN
        DEVICE=MEDIA3 PH_DEVICE=MEDIA3    PDF=MEDIA3
        SCRATCH_POOL=  S_MEDIA3
        NOSCRATCH_POOL=M_MEDIA3
        DEFAULT_BLKSIZE_RECFM_U = 64000
        DEFAULT_BLKSIZE=32760
        CAPACITY = 10000
END-IF
*--------------------------------------------------------------------

IF ROBOT( MEDIA-TYPE (MEDIA2) )
   THEN
        DEVICE=MEDIA2 PH_DEVICE=MEDIA2   PDF=MEDIA2
        SCRATCH_POOL=  S_MEDIA2
        NOSCRATCH_POOL=M_MEDIA2
        DEFAULT_BLKSIZE_RECFM_U = 64000
        DEFAULT_BLKSIZE=32760
        CAPACITY = 800
END-IF
```

The next box contains more of the AWBS337 sample.

```
IF ROBOT( MEDIA-TYPE (MEDIA1) )
   THEN
         DEVICE=MEDIA1  PH_DEVICE=MEDIA1 PDF=MEDIA1
         SCRATCH_POOL=  S_MEDIA1
         NOSCRATCH_POOL=M_MEDIA1
         DEFAULT_BLKSIZE_RECFM_U = 64000
         DEFAULT_BLKSIZE=32760
         CAPACITY = 400
END-IF
*-------------------------------------------------------------------

IF RMM(   MEDIATYPE ( ECCST )
          RECORDING ( 36TRACK )
        )
  THEN
       DEVICE=ECCST   PH_DEVICE=ECCST PDF=ECCST
       SCRATCH_POOL=  S_ECCST
       NOSCRATCH_POOL=M_ECCST
       DEFAULT_BLKSIZE_RECFM_U = 64000
       DEFAULT_BLKSIZE=32760
       CAPACITY = 800
END-IF
*-------------------------------------------------------------------

IF RMM(   MEDIATYPE ( CST )
          RECORDING ( 36TRACK )
        )
  THEN
       DEVICE=3490E   PH_DEVICE=3490E PDF=3490E
       SCRATCH_POOL=  S_3490E
       NOSCRATCH_POOL=M_3490E
       DEFAULT_BLKSIZE_RECFM_U = 64000
       DEFAULT_BLKSIZE=32760
       CAPACITY = 400
END-IF
```

The next box contains more of the AWBS337 sample.

```
IF TLMS(
             DEN (36TK)
         )
    THEN
        DEVICE=ECCST   PH_DEVICE=ECCST PDF=ECCST
        SCRATCH_POOL=  S_ECCST
        NOSCRATCH_POOL=M_ECCST
        DEFAULT_BLKSIZE_RECFM_U = 64000
        DEFAULT_BLKSIZE=32760
        CAPACITY = 800
END-IF

*-------------------------------------------------------------------

IF TLMS(
             DEN (18TK)
         )
    THEN
        DEVICE=3480    PH_DEVICE=3480 PDF=3480
        SCRATCH_POOL=  S_3480
        NOSCRATCH_POOL=M_3480
        DEFAULT_BLKSIZE_RECFM_U = 32760
        DEFAULT_BLKSIZE=32760
        CAPACITY = 200
END-IF

*-------------------------------------------------------------------

IF TLMS(
            DEN (CART)
         )
    THEN
        DEVICE=3480 PH_DEVICE=3480 PDF=3480
        SCRATCH_POOL= S_3480
        NOSCRATCH_POOL=M_3480
        DEFAULT_BLKSIZE_RECFM_U = 32760
        DEFAULT_BLKSIZE=32760
        CAPACITY = 200
END-IF
```

The next box contains more of the AWBS337 sample.

```
IF TLMS(
             DEN (6250)
        )
   THEN
       DEVICE=6250    PH_DEVICE=6250 PDF=6250
       SCRATCH_POOL=  S_6250
       NOSCRATCH_POOL=M_6250
       DEFAULT_BLKSIZE_RECFM_U = 16000
       DEFAULT_BLKSIZE=16000
       CAPACITY = 169
END-IF

*-------------------------------------------------------------------

IF TLMS(
             )
   THEN
        DEVICE=3400    PH_DEVICE=3400 PDF=3400
        SCRATCH_POOL=  S_3400
        NOSCRATCH_POOL=M_3400
        DEFAULT_BLKSIZE_RECFM_U = 32760
        DEFAULT_BLKSIZE=32760
        CAPACITY = 200
END-IF

*-------------------------------------------------------------------

DEFAULT
        DEVICE=ECCST PH_DEVICE=ECCST PDF=ECCST
        SCRATCH_POOL= SCRTCH
        NOSCRATCH_POOL=MASTER
        DEFAULT_BLKSIZE_RECFM_U = 64000
        DEFAULT_BLKSIZE=32760
        CAPACITY = 800
END-DEFAULT

*-----------------------------------------------------------------
```

Options 19 and 20: Phy. Dev. Job 1 and 2

Select option 19, **Phy. Dev. Job 1**, or option 20, **Phy. Dev. Job 2**, on the Installation and Maintenance menu (options S.1.19 and S.1.20 from the SAW main menu) to produce an automatic definition of PDFABBR and a physical device type for every string of DASDs. This performs a mass update of string assignments. You must run the produced JCL at the end.

The results are available through option 3, **String**, on the DASD Management menu (option 1.3 from the SAW main menu), where you can display string assignments.

Step 9: Defining a system for a dataplex

You must define at least one system for the dataplex and customize the variables before you are able to use SAW.

Type **S** in the Option line on the SAW main menu to choose the SAW Setup and Configuration option, and press Enter. The Setup and Configuration Options menu will display.

```
 ---------------------- Setup and Configuration Options ----------------------

Option  ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  Installation  - Installation and Maintenance Parameters

   2  Configuration - Dataplex and System Configuration Parameters
```

The options on this screen are described in the table below:

Menu Option	Description
1 - Installation	Use this option to edit default values originally established during installation, such as a job card and data set specifications. These values are also used for maintenance tasks.
2 - Configuration	Use this option to setup or edit dataplex and system parameters, such as those used to generate JCL for various jobs.

Type **2** in the Option line to select the **Configuration** option, and press Enter. The Dataplex and System Maintenance screen displays, listing all of the configuration options:

```
 ---------------------- Dataplex and System Maintenance -----------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  DATAPLEX        Maintain the Dataplex/System definition(s)

   2  SYSTEM          Display and/or update system records

   3  INVENTORY REORG Storage Administration Inventory reorganization

   4  POOL-TRACE      (dddhhmm) Create JCL (Mode : OLD Max.Num.Items: 31    )

   5  RECEIVE STC     Create JCL to receive data from remote site ( AWBSTC   )

   6  ALERT           Generate the JCL needed for ALERT process

   7  EXCEPTION REP.  Control file handling

   8  SYSTEM   JCL    Generate System related JCL

   9  DATAPLEX JCL    Generate Dataplex related JCL

  10  MISCELLANEOUS   Generate miscellaneous Dataplex related JCL

  11  AWBJ001 JCL     Generate NFTP OPC submitter

  12  AWBJ002 JCL     Generate SAI loader

   U  UNLOCK          Perform UNLOCK of the inventory
```

The options on the Dataplex and System Maintenance screen are briefly described below:

Menu Option	Description
1 - Dataplex	This option allows you to modify and add dataplexes. When adding a dataplex, this option displays four screens where you can enter parameter values to modify dataplex and systems definitions, such as adding volumes to a pool. **Note:** When you select this option and use the "C" action to customize, you must work through all four screens before you return to the menu.
2 - System	Systems must be defined prior to defining or attempting to use a dataplex. Use the System option to display or update system records, such as deleting all entries from a system, listing all volumes mounted at a select system, adding or updating system-record parameters, listing CHPIDs that are missing from a system, and adding or updating tape management parameters.
3 - Inventory Reorg	Use this option to make changes to the Storage Administration Inventory (SAI), such as changing the name of the volume serial, the amount of data space allowed (in cylinders), the amount of index space in tracks, and the free space allowed.
4 - Pool Trace	With this option, you select a system on which to perform a trace, and the JCL is automatically created for this process.
5 - Receive STC	This option creates JCL to receive data from remote sites, using the standard ID, AWBSTC.
6 - Alert	This option creates the JCL to perform alert processing for one dataplex, and the JCL to collect volume space data for each system in your dataplex.
7 - Exception Rep.	Use this option to add or modify parameters to the control file JCL for exception reporting.
8 - System JCL	This option generates system-related JCL, such as onsite and offsite backups, catalog and housekeeping backup jobs, and jobs to collect system data, volume information, and system-related catalog information.
9 -Dataplex JCL	Use this option to generate dataplex jobs, such as creating pool space tables, generating daily and periodic DVP reports, and collecting DFHSM migration data.
10 - Miscellaneous	This option generates dataplex-related JCL to execute the EXPIREBV command and to compress all of the permanent application libraries.
11 - AWBJ001 JCL	Use the option to select a system to use when generating an NFTP OPC submitter.
12 - AWBJ002 JCL	Use this option to generate a job named AWBJ002 that loads the Storage Administration Inventory (SAI).

Menu Option	Description
U - Unlock	Under some abend conditions, the Storage Administration Inventory (SAI) may remain in a locked status, which is an exclusive usage indicator. Normally you receive a message indicating this abend situation. To remove this lock indicator, use option S.1.U, **Unlock**, to delete the exclusive use indication record. **Note:** To use Unlock, you need ALTER authority for the security environment profile that protects the Storage Administration Inventory (SAI).

To define a system for a dataplex, choose option 2, **System**, on the Dataplex and System Maintenance menu (S.2.2 from the SAW main menu.) The following screen displays.

```
----------------------------- Dataplex Management ------------ Row 1 to 2 of 2
COMMAND ==>                                                    SCROLL => CSR
System: SYSJES21               Local Dataplex: MYDPLEX

Enter D  to DELETE all Entries for selected System
      S  to LIST   all Volumes mounted at selected System
      U  to UPDATE/ADD  System-Record Parameter
      X  to LIST   all missing CHPID's at selected System
      T     TAPE   Management Parameter (UPDATE/ADD)           F11=shift right

  Dataplex System   Node-id  last Update  Exec     Msg- Execut.  Notify   Seq
  Name     SMF/JES           Date  Time   Class    Cl.  User-Id  User-Id
- -------- -------- -------- ----- -----  -------- ---- -------- -------- ---
_ MYDPLEX  SYSJES21 JES2           20:34  A_______ A    MYID     MYID__    00
_ NYDPLEX  SYSJES20 SYS2____       18:31  A_______ A    MYID     MYID__    01
****************************** Bottom of data ********************************
```

To add a system, follow these steps:

1. Type **U** for update next to an existing entry.
2. Type over any fields you wish to change, then press Enter when you are done.

   Note: The record that you overtyped is not affected and remains unchanged.

The new record will now be displayed on the screen.

The next step is to define any tape parameters required for the system you just defined. To do this, type a **T** next to the system for which you want to provide tape parameters, and press Enter. The next screen displays.

```
----------------------------- Tape Management System Information --------------

COMMAND ==>                                                   SCROLL ===> CSR

System: SYSNAME1               Local Dataplex: MYDPLEX

RMM  (Y/N): _
  SAWR JOB MUST BUILD NEW EXTRACT/BATCH FILES (Y/N). _
  (if 'Y', DFRMM userid must be authorized to write extract/batch files)
  RMM Control file  dsn. ____________________________________________
  Message file      dsn. ____________________________________________
  Extract file      dsn. ____________________________________________
  RMM CDS backup    dsn. ____________________________________________

TLMS (Y/N): _
  Report procedure name. ________
  Proclib           dsn. ____________________________________________

CA1  (Y/N): _
  Report procedure name. ________
  Proclib           dsn. ____________________________________________

SMSTAPE Information:
  Use SMS VOLCAT information: _     (Y/N)
```

Make entries in the fields that relate to the tape management product you use. See your systems programmer if you need assistance completing this screen. When you are done, press Enter.

Step 10: Defining a dataplex

You must define at least one dataplex and customize the variables before you are able to use SAW.

To access the Dataplex Management screen, follow these steps:

1. Type **S** in the Option line on the SAW main menu to choose the SAW Setup and Configuration option, and press Enter.
2. Type **2** on the Setup and Configuration Options screen to select the Configuration option, and press Enter.
3. To setup dialog variables for a local dataplex, choose option 1, **Dataplex**, on the Dataplex and System Maintenance menu, and press Enter.

The following screen displays:

```
----------------------------- Dataplex Management ------------ Row 1 to 1 of 1

COMMAND ==>

System: SYSNAME1               Local Dataplex: MYDPLEX

Enter one of A  C  D  S  U  X  N  F  P   (see help)  F11  = Summary

  Dataplex Mode  Acc Type Location description
- -------- ----- --- ---- ----------------------------------------

_ MYDPLEX_ L _   U   M  _  Company ABC Local DataPlex_________

****************************** Bottom of data ********************************
```

Field Descriptions

The table below describes the fields on this screen.

Field or Column Name	Description
System	The one- to eight-character name of the system.
Local Administrative Dataplex	The one- to eight-character name of the local dataplex.
Dataplex	The one- to eight-character name of the dataplex. In the example, the dataplex name is MYDPLEX.
Mode	Indicates the mode for this dataplex. Possible modes are: • **L** - Local • **L A** - Local administrative dataplex • **R** - Remote dataplex • **R T** - Remote target dataplex • **P A** - Remote dataplex processed in local.
Acc	Indicates the type of access allowed for this dataplex. Valid access types are: • **N** - No access allowed to this dataplex. • **R** - Read only access allowed for this dataplex. • **U** - Update access allowed for this dataplex.
Type	Possible types are: • **M** - MVS • **V** - VM
Location description	Use up to 38 characters to describe the name and use of the dataplex in more detail.

Line commands

There are a number of line commands that you can use on this screen:

Command	Description
A	Type **A** to alter the local dataplex name.
C	Type **C** to customize the dataplex variables.
D	Type **D** to delete all entries for remote dataplexes.
S	Type **S** to display all the systems in a dataplex.
U	Type **U** to update dataplex variables.
X	Type **X** to transmit changes to a remote dataplex.
N	Type **N** to add a remote dataplex that is processed locally.
F	Type **F** to enter free-form text for the dataplex description.
P	Type **P** to change the mode from R (remote dataplex) or RT (remote target dataplex) to P (remote dataplex processed locally).

Type **U** in front of the dataplex name of your local dataplex to update the information. When all of the fields are filled, press the Enter key to store the data in your Storage Administration Inventory (SAI).

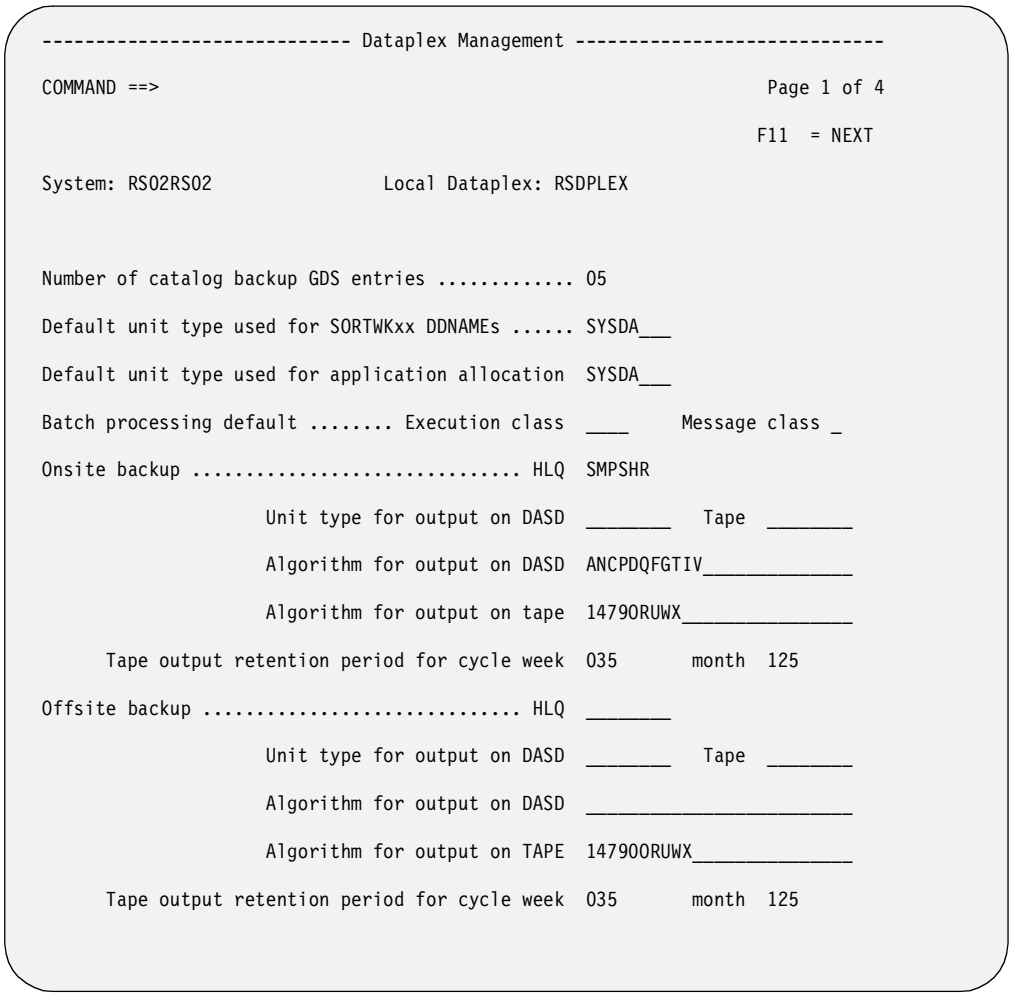
Note: The dataplex name was specified during the installation process when the JCL in AWBALLOC was run. Refer to "Step 2: Modify allocation sample" on page 20 for information on AWBALLOC.

In the example shown on the screen, the dataplex name is MYDPLEX, the Mode is L (local), the Type is M (MVS), and the Location description is "Company ABC Local Dataplex."

Customizing dataplex variables

If this is the very first definition of a local dataplex, you must customize these variables.

After the successful creation of the dataplex base record, type **C** in front of the dataplex name and press Enter. The first of four customization panels displays as shown below:



Use the PF-keys as shown on the panels to move to the next customizing part until you reach the last panel (4). Only on this panel can you leave the customizing dialog and save the specified data in your Storage Administration Inventory (SAI).

Most of the variables are initialized with default values as they are commonly used. If the default values do not fit your installation standards, change them by overwriting the specific fields.

Note: The colors of the fields indicate importance.

- Red input fields must be filled in before moving onto the next screen. Some red fields contain default values.
- Green fields are optional. When some green fields are filled in, they may turn red and other fields may become red.

Help information can be selected by pressing the HELP key (PF1).

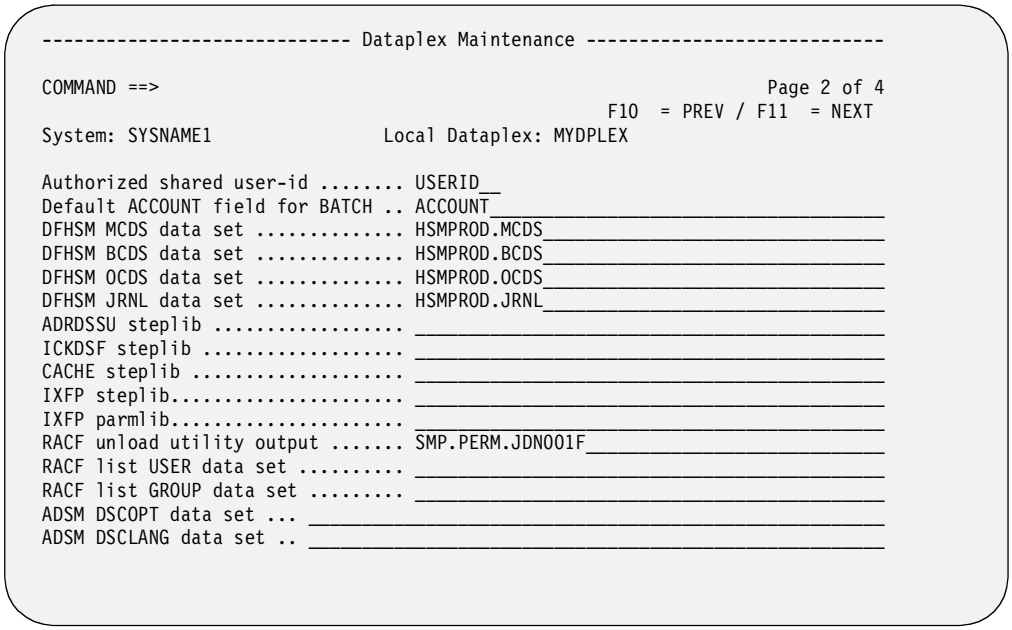
The table below describes the fields on the first customization screen.

Field or Column Name	Description	ISPF Variable
Number of catalog backup GDS entries	Enter the number of GDS entries that should be kept for each catalog backup.	MCNGDG
Default unit type used for SORTWKxx DD-names	Enter your installation standard unit name for all SORTWKxx temporary data sets. The default is set to SYSDA.	SORTDEV
Default unit type used for application allocation	Enter your installation standard unit name for non-specific requests. The default is set to SYSDA.	DEFDEV
Batch processing - default execution class	Enter the execution class that should be used in batch JCL that is generated during the storage administration process. **Note:** If JES3 is used as the job entry subsystem and the class is longer than one character, the default job card has to be modified.	SVWCLASS
Batch processing - default message class	Enter the message class that should be used in batch JCL generated during the storage administration process.	MSGCL
Onsite backup . . . HLQ	This field displays the high-level qualifier used for onsite backup process. The default value is SMPSHR.	SERVHLQ
Onsite backup . . . unit type for output on DASD	Enter the generic unit name that should be used for DASD backup processing with output on DASD volumes.	ONDASD
Onsite backup . . . unit type for output on TAPE	Enter the generic unit name that should be used for DASD backup processing with output on TAPE volumes.	ONTAPE
Onsite backup . . . Algorithm for output on DASD	Enter the algorithm identification for backup processing with output on DASD volumes. **Note:** This should only be changed if a new selection was added.	DDASD
Onsite backup . . . Algorithm for output on TAPE	Enter the algorithm identification for backup processing with output on TAPE volumes. **Note:** This should only be changed if a new selection was added.	DTAPE
Onsite backup. . . tape output retention period for cycle week	Specify the retention period that should be used for onsite backup output on tape during the weekly cycle.	DRW
Onsite backup. . . tape output retention period for cycle month	Specify the retention period that should be used for onsite backup output on tape during the monthly cycle.	DRM

Field or Column Name	Description	ISPF Variable
Offsite backup . . . HLQ	Type the high level qualifier that should be used for the offsite backup process. This value must be different from on-site backup. The recommended value is SMPSHR.V. If you specify a value for the offsite backup HLQ, the corresponding fields must also be specified.	VITALHLQ
Offsite backup . . . unit type for output on DASD	Type the generic unit name that should be used for DASD backup processing with output on DASD volumes.	OFFDASD
Offsite backup . . . unit type for output on TAPE	Type a generic unit name that should be used for DASD backup processing with output on tape volumes.	OFFTAPE
Offsite backup . . . Algorithm for output on DASD	Specify the algorithm identification for backup processing with output on DASD volumes. **Note:** This should only be changed if a new selection was added.	VDASD
Offsite backup . . . Algorithm for output on TAPE	Specify the algorithm identification for backup processing with output on tape volumes. **Note:** This should only be changed if a new selection was added.	VTAPE
Offsite backup . . . tape output retention period for cycle week	Specify the retention period that should be used for offsite backup output on tape during the weekly cycle.	VRW
Offsite backup . . . tape output retention period for cycle month	Specify the retention period that should be used for offsite backup output on tape during the monthly cycle.	VRM

Customization fields for second screen

The second customization screen is shown below.



The table below describes the fields on the second customization screen.

Field or Column Name	Description	ISPF Variable
Authorized shared userid	In MVS/ESA, if a shared user ID is used for batch processing when performing storage management tasks, enter the name of that user ID. The recommended value is AWBSERV. In all dialog steps where JCL is generated, the requesting user ID is checked for access to the RACF SURROGAT profile of the specified shared user ID. If access is permitted, the shared user ID will be used. If not, the user's own ID will be put in the generated job card.	AUTHUSER
Default account field for batch	Enter the complete account field as it is used in your installation, such as 2353,13,DG590.	ACCOUNT
Name of DFHSM MCDS	Enter the name of your DFHSM migration control data set (MCDS). **Note:** If this field is blank, no DFHSM-related information can be provided during the Storage Administration Inventory (SAI) collect process.	TSMMCDS
Name of DFHSM BCDS	Enter the name of your DFHSM backup control data set (BCDS). **Note:** If this field is blank, no DFHSM related information can be provided during the Storage Administration Inventory (SAI) collect process.	TSMBCDS

Field or Column Name	Description	ISPF Variable
Name of DFHSM OCDS	Enter the name of your DFHSM offline control data set (OCDS). **Note:** If this field is blank, no DFHSM-related information can be provided during the Storage Administration Inventory (SAI) collect process.	TSMOCDS
Name of DFHSM JOURNAL	Enter the name of your DFHSM journal data set.	JOURNAL
Name of steplib for ADRDSSU	If a STEPLIB is needed to execute the authorized version of DFDSS (PGM=ADRDSSU), the data set name must be specified.	ADRDSSU
Name of steplib for ICKDSF	If a STEPLIB is needed to execute the authorized version of DSF (PGM=ICKDSF), the data set name must be specified.	ICKDSF
Name of steplib for CACHE	If a STEPLIB is needed to execute the authorized version for CACHE LISTDATA/SETCACHE processing (PGM=IDCAMS), the data set name must be specified.	CACHE
Name of steplib for IXFP	If a STEPLIB is needed to use the IXFP functions, type the name of the data set in this field.	IXFPLOAD
Name of parmlib for IXFP	Type the name of the parmlib to be used for IXFP functions. **Note:** By setting this variable, it will be available in the RVA maintenance dialog (option R on the SAW main menu).	IXFPPARM
Name of RACF Unload Util. output	Type the name of the data set which contains the unloaded RACF data, if the RACF Unload Utility is used. If this field is specified, no other RACF-related customizing is needed. **Note:** RACF USER/GROUP data are needed for the verification process during catalog management. The data can be provided either by RACF list commands or by the RACF unload utility.	FLAT
Name of RACF list USER data set	Enter the name of the data set which contains the output produced by the RACF LU * command. The data set must be allocated with a RECFM=VBA and a LRECL=137. This dataset is used for validation processing. **Note:** If the RACF Unload Util. output field is specified, this field can be blank.	US

Field or Column Name	Description	ISPF Variable
Name of RACF list GROUP data set	Enter the name of the data set which contains the output produced by the RACF LG * command. The data set must be allocated with a RECFM=VBA and a LRECL=137. This dataset is used for validation processing in catalog administration. **Note:** If the RACF Unload Util. output field is specified, this field can be blank.	GR
DSCOPT	If ADSM is installed on the system, you can access the ADSM dialog under SAW. In this case, just specify the content of the DSCOPT DDNAME of the ADSM procedure.	DSCOPT
DSCLANG	If ADSM is installed on the system, you can access the ADSM dialog under SAW. In this case, list the content of the DSCLAND DDNAME of the ADSM procedure.	DSCLANG (green)

Customization fields for third screen

The third dataplex customization screen is shown below.

```
----------------------------- Dataplex Management -----------------------------

COMMAND ==>                                                      Page 3 of 4
                                                    F10  = PREV / F11  = NEXT
System: RSO2RSO2               Local Dataplex: RKSPLEX

TRANSMIT nickname of SARA administrative focal point ................ ________
NFTP REMNODE of SARA administrative focal point ..................... ________
NFTP CLASS of SARA administrative focal point ....................... _
IFX RNOTIFY of SARA administrative focal point ...................... ________
TRANSMIT nickname of SAWR administrative focal point ................ ________
NFTP REMNODE of SAWR administrative focal point ..................... ________
NFTP CLASS of SAWR administrative focal point ....................... _
IFX RNOTIFY of SAWR administrative focal point ...................... ________
NFTP REMNODE of the current dataplex ................................ ________
NFTP CLASS of the current dataplex  ................................. _
IFX RNOTIFY of the current dataplex ................................. ________
TRANSMIT nickname of the central Error-MSG processing ............... ________
OPC/ESA Sub-system name ............................................. ________
OPC/ESA EQQMLIB data set name .... ______________________________________________
```

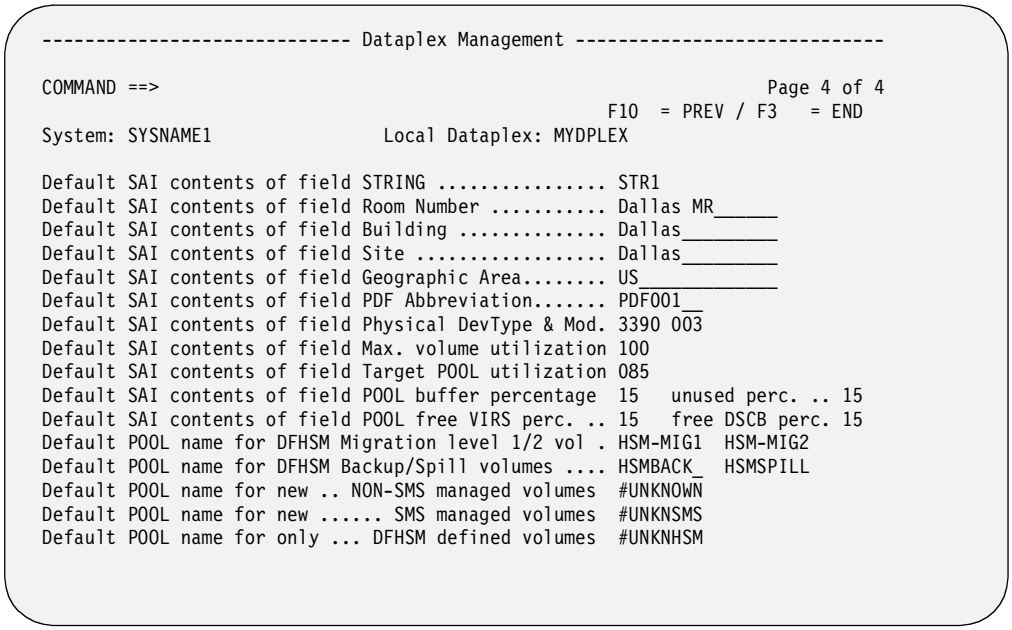
The table below describes the fields on the third customization screen.

Field or Column Name	Description	ISPF Variable
TRANSMIT nickname of SARA administrative focal point	Not required.	DBNODE
NFTP REMNODE of SARA administrative focal point	Not required.	

Field or Column Name	Description	ISPF Variable
NFTP CLASS of SARA administrative focal point	Not required.	
IFX RNOTIFY of SARA administrative focal point	Not required.	
TRANSMIT nickname of SAW administrative focal point	Enter the nickname of the AWBSTC start command if you plan to send the data of your dataplex to a central Storage Administration Inventory (SAI). The recommended value is SAW. **Note:** Refer to"SAI receipt:" on page 54 for a complete description of how to install and customize the AWBSTC start command.	REMNOD
NFTP REMNODE of SAW administrative focal point	Enter the REMNODE to send the local dataplex data to the administrative Storage Administration Workbench.	
NFTP CLASS of SAW administrative focal point	Enter the class to send the local dataplex data for central processing.	
IFX RNOTIFY of SAW administrative focal point	Enter the RNOTIFY to send the local dataplex data to the administrative Storage Administration Workbench.	
NFTP REMNODE of the current dataplex	Enter the REMNODE to receive data on the current dataplex.	
NFTP CLASS of the current dataplex	Enter the class to receive data on the current dataplex.	
IFX RNOTIFY of the current dataplex	Enter the RNOTIFY to receive data on the current dataplex. **Note:** Ask your NFTP support to obtain all NFTP/IFX information. This will be used for NFTP transmission.	
TRANSMIT nickname of the central Error-MSG processing	Enter the nickname that should be informed about uncompleted execution of storage management jobs. The recommended value is SA. **Note:** Update this field only when you are familiar with all JCL generation processing.	ERRNODE
OPC/ESA Subsystem name	Ask your OPC support to obtain this information. This will be used for NFTP transmission.	
OPC/ESA EQQMLIB data set name	Ask your OPC support to obtain this information. This will be used for NFTP transmission.	

Customization fields for fourth screen

The fourth dataplex customization screen is shown below.



```
----------------------------- Dataplex Management -----------------------------

COMMAND ==>                                                      Page 4 of 4
                                                    F10  = PREV / F3   = END
System: SYSNAME1               Local Dataplex: MYDPLEX

Default SAI contents of field STRING ................ STR1
Default SAI contents of field Room Number ........... Dallas MR______
Default SAI contents of field Building .............. Dallas_________
Default SAI contents of field Site .................. Dallas_________
Default SAI contents of field Geographic Area........ US_____________
Default SAI contents of field PDF Abbreviation....... PDF001__
Default SAI contents of field Physical DevType & Mod. 3390 003
Default SAI contents of field Max. volume utilization 100
Default SAI contents of field Target POOL utilization 085
Default SAI contents of field POOL buffer percentage  15   unused perc. .. 15
Default SAI contents of field POOL free VIRS perc. .. 15   free DSCB perc. 15
Default POOL name for DFHSM Migration level 1/2 vol . HSM-MIG1  HSM-MIG2
Default POOL name for DFHSM Backup/Spill volumes .... HSMBACK_  HSMSPILL
Default POOL name for new .. NON-SMS managed volumes  #UNKNOWN
Default POOL name for new ...... SMS managed volumes  #UNKNSMS
Default POOL name for only ... DFHSM defined volumes  #UNKNHSM
```

The table below describes the fields on the fourth customization screen.

Field or Column Name	Description	ISPF Variable
Default SAI contents of field STRING	Enter the default STRING name that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFSTR
Default SAI contents of field Machine room	Enter the default machine room name that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFROOM
Default SAI contents of field Building	Enter the default building name that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFBUILD
Default SAI contents of field Site	Enter the default site name that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFSITE
Default SAI contents of field Geographic Area	Enter the default geographic area name that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DCOUNTRY
Default SAI contents of field PDF Abbreviation	Enter the default PDF Abbreviation that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFPDFAB
Default SAI contents of field Physical device type and model	Enter the default physical device type and model that should be assigned if a new DASD volume is added to the Storage Administration Inventory (SAI).	DEFPDEVT

Field or Column Name	Description	ISPF Variable
	Note: These last six fields are planned for a future version.	
Default SAI contents of field Max. volume utilization	Enter the default value for the maximum volume utilization threshold that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI).	DEFMVOL
Default SAI contents of field Target POOL utilization	Enter the default value for the target POOL utilization threshold that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI).	DEFPUTIL
Default SAI contents of field POOL buffer percentage	Enter the default value for the POOL buffer percentage threshold that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI).	DEFBP
Default SAI contents of field POOL unused percentage	Enter the default POOL unused percentage that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI). A value of 15 is recommended.	DEFWP
Default SAI contents of field POOL free VIRS percentage	Enter the default value for the percentage of free VIRS that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI).	DEFVP
Default SAI contents of field POOL free DSCB percentage	Enter the default value for the percentage of free DSCB that should be used if a new POOL/Storage Group is added to the Storage Administration Inventory (SAI). A value of 15 is recommended.	DEFDP
Default POOL name for DFHSM Migration level 1 vol.	Enter the default assigned POOL name that should be used if a new DFHSM Migration Level 1 (ML1) volume is added to the Storage Administration Inventory (SAI).	ML1
Default POOL name for DFHSM Migration level 2 vol.	Enter the default assigned POOL name that should be used if a new DFHSM Migration Level 2 (ML2) volume is added to the Storage Administration Inventory (SAI).	ML2
Default POOL name for DFHSM Backup volumes	Enter the default assigned POOL name that should be used if a new DFHSM Backup volume is added to the Storage Administration Inventory (SAI).	BACK
Default POOL name for DFHSM Backup SPILL volumes	Enter the default assigned POOL name that should be used if a new DFHSM backup SPILL volume is added to the Storage Administration Inventory (SAI).	SPILL
Default POOL name for new . . . NON-SMS managed volumes	Enter the default assigned POOL name that should be used if a new non-SMS-managed volume is added to the Storage Administration Inventory (SAI).	UNKNOWN

Field or Column Name	Description	ISPF Variable
Default POOL name for new . . . SMS managed volumes	Enter the default assigned POOL name that should be used if a new SMS-managed volume (without a proper Storage Group assignment) is added to the Storage Administration Inventory (SAI).	UNKNSMS
Default POOL name for only . . . DFHSM defined volumes	Enter the default assigned POOL name that should be used if a volume only defined as a DFHSM primary volume is added to the Storage Administration Inventory (SAI).	#UNKNHSM

Using a remote dataplex

It is worth defining a remote dataplex when any dataplex is not subject to regular care. In other words, you have to first evaluate the different systems you are managing. This allows you to detect the most important ones, in terms of storage administration activities. Then you will be able to isolate the low activity systems or dataplex, and send its corresponding Storage Administration Inventory (SAI) to the dataplex of your choice that is regularly accessed.

The way to set up the transmission and receipt of the SAI is detailed in the following sections.

Data Transmission: TRANSMIT/RECEIVE or NFTP/IFX can be used to transmit data sets from one dataplex to another. The steps for using each of these methods are listed below:

TRANSMIT/RECEIVE: Follow these steps to transmit data sets.

1. Use option S.2.1, **Dataplex**, to display a list of dataplexes on a system.
2. Type **U** next to a dataplex you want to update.
3. Type **C** to customize the dataplex.
4. Type the nickname of the systems that will receive data in the "Transmit nickname of SAW administrative focal point" field. The default nickname is SAW.
5. Use option S.1.10, **Nicknames**, to set the user ID (normally AWBSTC) and the node ID of the receiving dataplex.

All of the following items can be sent two different ways:

- Storage Administration Inventory (SAI)
- *.*.SKELS.dataplex
- *.*.TABLES.dataplex
- AWBSERV.NAMES.TEXT

The two methods are described below.

Method 1: Follow these steps.

1. Use option S.2.8, **System JCL**.
2. Type **J** in the "Select the item below as" field.
3. Type **N** in the DEF-GDG field, if it is not already displayed.
4. Type **S** next to the first task, "Collect data from the system and store them in the SAI".

5. Type a member name in the "Member" field, and press Enter.
6. Respond with "yes" when you are asked whether you want to send the SAI.

Method 2: Follow these steps.

1. Use option 2.8.9, **Dataplex JCL**.
2. Type **J** in the "Select the item below as" field.
3. Type **S** next to the "Transmit Storage Administration Inventory for remote loading" option.
4. Type a member name in the "Member" field, and press Enter.

NFTP/IFX:

1. Use option S.2.1, **Dataplex**, to display a list of dataplexes on a system.
2. Type **U** next to a dataplex you want to update.
3. Type **C** to customize the dataplex.
4. Type NFTP/IFX parameters for the sending and receiving systems.

All of the following items can be sent using the Dataplex JCL option:

- Storage Administration Inventory (SAI)
- *.*.SKELS.dataplex
- *.*.TABLES.dataplex
- AWBSERV.NAMES.TEXT

  Use option S.2.9, **Dataplex JCL**, and make an entry in the "NFTP transmissions for SAW and/or SARA" option.

SAI receipt: The AWBSTC start command is used to receive data from a remote dataplex on the central Storage Administration Inventory (SAI). The customization of this procedure is done through option S.2.5, **Receive STC**, and the result is placed in member AWBSTC in the `*.*.PROCLIB.dataplex`.

Note: If this PROCLIB data set is not known by JES, the AWBSTC procedure must be copied to a known one.

Using a remote target dataplex

A "remote target dataplex" is a dataplex which is administered by a local administrative dataplex. Follow these steps to set up this administrative relationship:

1. Generate the JCL for the AWBSTC started task. See “SAI receipt:” on page 54 for details.

   Note: This task is mandatory to receive data from the local administrative dataplex.
2. Transmit data to the local administrative dataplex. See“Data Transmission:” on page 53 for details.

   Note: When a remote dataplex is administrated from a local administrative dataplex, it is highly recommended to protect this dataplex from being modified from the dataplex itself.

You can now administer the remote target dataplex from the local administrative dataplex.

Chapter 4. Collecting Data

Storage Administration Workbench (SAW) collects data from a variety of places. Batch jobs and dialogs are used to collect information from UCB, VTOC, catalogs, cache, DFHSM, CDS, a RACF database, and tape management products. All of this information is merged and consolidated in the Storage Administration Inventory (SAI). Stored reports are built from this data.

This chapter describes the dialogs (screens) and options that you can use to collect different types of data.

Preparing for batch jobs

Normally, storage management jobs are initiated by predefined cycles that are scheduled to run routinely. The advantages of using Storage Administration Workbench (SAW) are that some of the tasks can also be executed online on request, and all JCL generation can be done with dialog assistance. This chapter provides detailed instructions on how the required jobs can be created and which sequence must be followed to collect data for the Storage Administration Inventory (SAI).

Creating Test Jobs

The instructions in this chapter assume that you are creating procedures that will be used in the housekeeping (or production) jobs. However, initially you should create test jobs by doing the following:

1. Choose S, **Setup**, on the SAW main menu.
2. Choose 2, **Configuration**, on the Setup and Configuration Options menu.
3. Choose 8, **System JCL**, on the Dataplex and System Maintenance menu.
4. Type **J** for JCL in the "Select the items below as" field.
5. Type **Y** in one or more of the TEST fields to indicate which jobs need test JCL.

It is recommended that you run all of your jobs for a short period (perhaps for two weeks) before you decide how you will combine the various steps into jobs and the various jobs into housekeeping suites. This will give you an opportunity to select the functions you require, and enable you to establish meaningful thresholds and control file values.

Before creating JCL

Before you generate any JCL with the System JCL, Dataplex JCL, or Pool-Trace options on the Dataplex and System Maintenance menu (options S.2.8, S.2.9, and S.2.4 from the SAW main menu) , do the following:

- *Perform the space customization*, which uses option S.2.8 from the SAW main menu.
- *Update the ISPF profile*, which uses option S.2.8 from the SAW main menu.

Perform space customization

You can configure the quantity of DASD space for the DCOLLECT output dataset. The SPACE parameter will be used in the subsequently generated JCL.

1. On the SAW main menu, choose option S, **SAW Setup and Configuration**.

2. On the Setup and Configuration Options menu, choose option 2, **Configuration**.
3. On the Dataplex and System Maintenance menu, choose option 8, **System JCL**.
4. On the Generate System Related JCL screen, type **Y** in the **Configure DCOLLECT Spaces** field, and press Enter. A sample screen is shown below:

If you have used this screen before, the items in the "Number Volumes" columns show the values that you previously defined.

Update the ISPF Profile

When you select this field, an online update is performed of the ISPF profile with SAW parameters. Select this option the first time a JCL construction for batch processing is being executed.

1. On the SAW main menu, choose option S, **SAW Setup and Configuration**.
2. On the Setup and Configuration Options menu, choose option 2, **Configuration**.
3. On the Dataplex and System Maintenance menu, choose option 8, **System JCL**.
4. On the Generate System Related JCL screen, type **Y** in the **Update ispf profile for batch processing** field, and press Enter.

Generating JCL for system jobs

Before you generate any JCL, you must first do the following:

- *Customize the space*. Refer to “Perform space customization” on page 55 for instructions.
- *Update the ISPF profile*. Refer to “Update the ISPF Profile” for instructions.

This section describes the dialogs you use to generate the JCL for system-related batch jobs. You can then submit this JCL. Select option 8, **System JCL**, on the Dataplex and System Maintenance screen (S.2.8 from the SAW main menu). The Generate System Related JCL screen will display, as shown on the next page.

```
AWBB004 ---------------------- Generate System Related JCL ----------------------

COMMAND ==>
These JCLs have to be created for each system in your Dataplex, but you
must first update the ISPF environment (S.1.7) and Configure Space.
System: SYSNAME1               Local Dataplex: MYDPLEX


===> N Configure DCOLLECT spaces (Y/N)
===> N Update ispf profile for batch processing (Y/N)


Select the items below as  J (J/I/P/G)                 DEF-GDG: Y  (Y/N)

s Collect data from the system and store them in the SAI   Y RVA  (Y/N )

s Collect system related CATALOG information

s Collect VOLUME information via DCOLLECT       Y DASD   N TAPE   ROD

s Generate missing  ALIAS connector definition    TEST( _ )

s Delete obsolete ALIAS ent. TEST( _ )

s Generate CATALOG backup jobs TEST( _ )

s Generate housekeeping jobs TEST( _ )  DAY( ? )  SG( *_______ )

s Generate onsite backup jobs TEST( _ )  DAY( ? )  SG( *_______ )  SEL ( ALL_ )

s Generate offsite backup jobs TEST( _ )  DAY( ? )  SG( *_______ )  SEL( ALL_ )

s Merge DFHSM log data sets LOG( ALL_____________ )        HLQ( HSMACT__ )


The generated output will be stored in the following data set (? = default):

DSN: AWB.LWRK0110.RUN_____________________________ MEMBER: ________
```

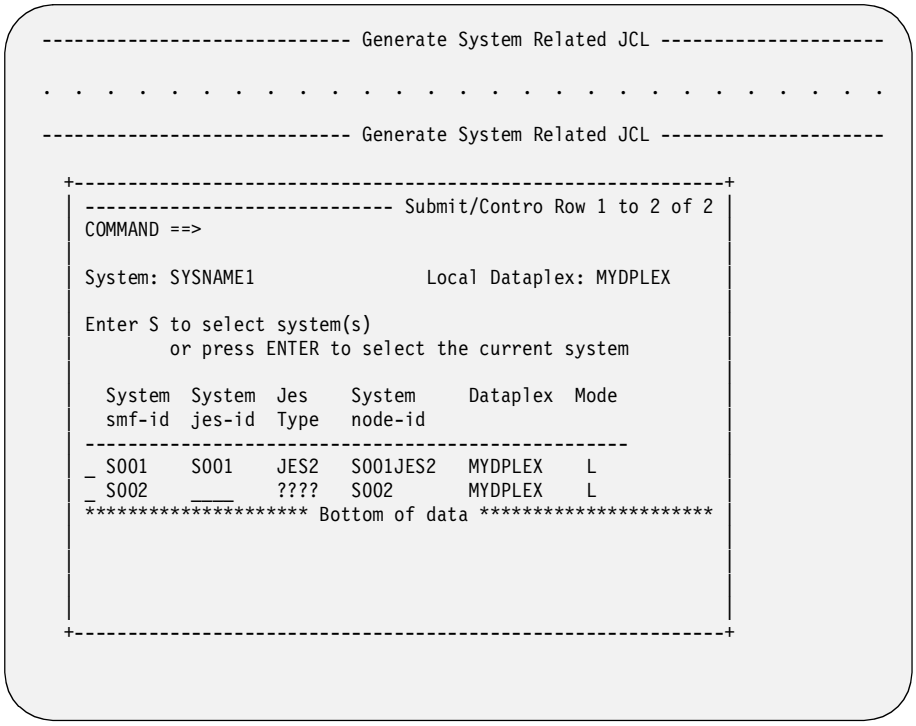
Figure 1. Local Dataplex - Setup of System Related JCL

Using this panel, you should be able to generate all the JCL needed to setup the system-related (collect and independent) jobs. The setup should be done in sequence.

1. Define all system-related GDG base entries. You only need to do this one time. Follow these steps to define the systems that are part of the GDG:
   a. Type **Y** on the DEF-GDG input field.
   b. Type **S** in front of all the tasks on this panel, as shown in the above sample screen, and press the **Enter** key.
   c. Select all the systems that are displayed on the following selection panel and press the **Enter** key. An example of this screen is shown below.

      Notes:

      1) If you only have one dataplex defined, you will not see this screen.
      2) If all systems are not displayed, use **R** on the command line to refresh the temporary system table.



d. Submit the generated JCL. Every GDS will have "dataplexname" as the last qualifier. When finished, return to the Generate System Related JCL screen, which is option S.2.8 from the SAW main menu.

Note: The generated JCL will be executed on the selected system itself. If the systems are not part of the JES cluster you are logged onto, you have to enter your Password for all systems that do not belong to that JES cluster.

2. Create the JCL for each system. To do this follow these steps.

a. Type a value in "Select the items below as" input field. There are four different types of JCL, which are described in the table below.

Value	Description
J	Produces normal JCL. If you do not know which value to enter, type J.
I	Uses a pre-defined procedure as an instream procedure, and calls that procedure with valid and customized values. **Note:** If you select two or more of the tasks that are listed on the Generate System Related JCL screen, the JCL will contain one procedure call for each selected item.
P	Produces a JCL procedure. **Note:** If you select two or more of the tasks that are listed on the Generate System Related JCL screen, the JCL will contain one procedure call for each selected item.
G	Generates the procedure in the `*.*.PROCLIB.dataplex` library, where "*.*" represents the HLQ and SLQ specified at installation and "dataplex" is the name of your dataplex. The procedure library must be known by JES or the specified procedure data set must be part of your JCLLIB definition. For more information, refer to “Option 3: JCLLIB” on page 25.

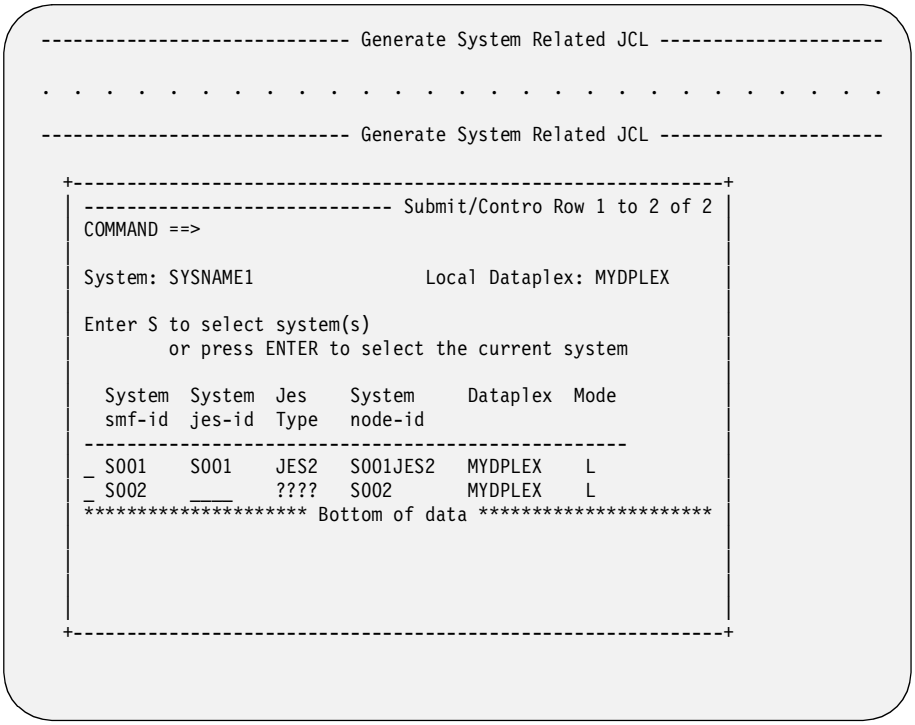
b. Select one or more of the tasks listed on the Generate System Related JCL screen. Some tasks require additional execution parameters. The following table describes them.

Requested Input Field	Valid Entry	Description
RVA	Y for Yes N for No	Type **Y** or **N** to indicate whether to perform an "RVA dcollect".
DASD	Y for Yes N for No	Type **Y** or **N** to indicate whether to perform a DASD dcollect.
TAPE	Y for Yes N for No	Type **Y** or **N** to indicate whether to perform a tape dcollect. **Note:** If you type **Y**, you must also make an entry on the Tape Management screen to indicate which type of tape management system you are using, RMM, TLMS, or CA1. You only need to do this once. “Option 18: Tape Device” on page 33 for details.
TEST	Y for Yes N for No	Type **Y** or **N** to indicate whether to generate JCL. The resulting JCL includes the Y or N as an argument to a program in an EXEC statement in the JCL. That program will then run in test mode (Y) or "live" mode (N).
DAY	1, 2, 3, 4, 5, 6, 7 or ?	Specify the requested day of the week, where 1 is Monday, 2 is Tuesday, etc. If you type a question mark (?), the programs will evaluate the current day according to the following rules: • If at execution time, the current hour is between 0 and 11 AM, the day is set to the day before. • Otherwise, the day is set to the current day of the week.
SG	Name of a pool or storage group, or an asterisk (*) for all	Type a specific name or a generic Pool/Storage Group name, such as PRIMARY, that is defined in the Storage Administration Inventory (SAI). If you type an asterisk (*), all of the Pool/Storage Groups will be selected.
SEL	ALL, DASD or TAPE	Indicate which type of backup process should be used: • *DASD*. Process only backups with output on DASD. • *TAPE*. Process only backups with output on tape. • *ALL*. Process all backups, no matter which output format they use.

Requested Input Field	Valid Entry	Description
LOG	ALL, ...	Enter one of the following parameters in the LOG field to indicate which DFHSM logs you want to include in the LOGSCAN job. • *ALL.* (default) All logs will be copied, with the exception of ABARS. • *MIG*. Only migration logs will be copied. • *BAK*. Only backup logs will be copied. • *DMP*. Only dump logs will be copied. • *CMD*. Only command logs will be copied. • *TEST*. Used in combination with one of the above parameters. Separate TEST and the other parameter with a blank character, such as ALL TEST. The TEST parameter prevents deletion of the source activity log data sets during installation and testing. For more information on LOGSCAN jobs, refer to "Generating the LOGSCAN job" on page 138.
HLQ	hlq	Type the high level qualifier used by DFHSM for activity logs. The default is HSMACT.
DSN:	Data set name or ?	Type the name of a partitioned data set that contains the member where you want the JCL to be stored. If the specified data set does not exist, the dialog will allocate the specified data set name. If you type a question mark (?) in the DSN field, a default library name will be returned, based on the following: • If you typed **G** in the "Select the items below as" input field, the default library name is `*.*.PROCLIB`, where "*.*" represents the HLQ and SLQ defined at installation. • If you typed **J**, **I**,or **P** in the "Select the items below as" input field, the default library name is `*.L*.RUN`, where "*.L*" represents the HLQ and SLQ defined at installation. **Note:** If your dataplex is local, it is recommended that you use the `*.L*.RUN` library for the RUN JCL data set.
Member:	member name	Type the name of the member in the partitioned data set where you want the generated JCL to be stored.

c. Now, press the Enter key. A screen will be displayed where you can select the system on which the task(s) should be performed. After making your selection, press Enter.

Note: If more than one system is selected, the requested tasks will be generated for each selected system as a separate JOB, but stored on the same specified output data set. If "DSN:" is blank, the JCL will be stored in a temporary data set.



d. Submit the generated JCL.

Generating JCL for dataplex jobs

Before you generate any JCL, you must first do the following:

- *Customize the space*. Refer to "Perform space customization" on page 55 for instructions.
- *Update the ISPF profile*. Refer to "Update the ISPF Profile" on page 56 for instructions.

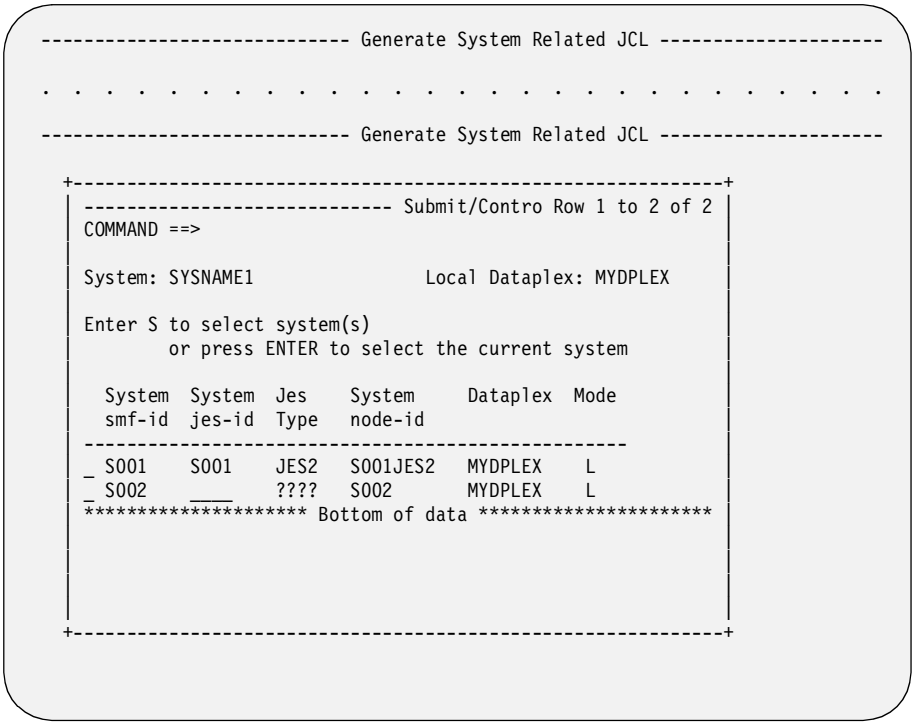
This section describes the screens you use to generate the JCL for dataplex-related batch jobs. You can then submit this JCL. Select option 9, **Dataplex JCL**, on the Dataplex and System Maintenance screen (S.2.9 from the SAW main menu). The Generate Dataplex Related JCL screen will display, as shown on the next page.

```
----------------------------- Generate Dataplex Related JCL -------------------

COMMAND ==>
This JCL has to be executed, when all system-related jobs are finished,
 but first update ISPF environment (S.1.7) and Configure Space (S.2.8)
 System: SYSNAME1               Local Dataplex: MYDPLEX

Select the items below as  _ (J/I/P/G)                DEF-GDG: N  (Y/N)

_ Collect  DFHSM migration, backup and capacity information

_ Merge    All information collected via DCOLLECT

_ Create   POOL space tables ( yyyyddd )       Max.Number of items: 31_

_ DVP,SPA  Daily Pool/Volume report and SPA reporting process

_ DVP,SPA  Periodic Pool/Volume report and SPA reporting process

_ LOGSCAN  Archive and Analyze DFHSM logs with LOGSCAN process

_ LIST     RACF DFP information for all user, group and data set entries

_ SAVE     Storage Administration Inventory and COMPRESS local SKELS/TABLES

_ MESSAGE  Generate information for incorrect or abended batch jobs

_ Merge    all system related CATALOG information

_ Analyze  CACHE status

_ TRANSMIT Storage Administration Inventory for remote loading

_ Except.  Send Exception Reports

_ NFTP     NFTP transmissions for SAWR and/or SARA

The generated output will be stored in the following data set (? = default):

DSN: AWB.LBIGO11O.RUN_____________________________ MEMBER: ________
```

Using this screen, you should be able to generate all of the JCL needed to setup dataplex-related jobs (merge and independent). The jobs can be scheduled on any system of the dataplex, where all of the output that was created by the system-related jobs (generated by option S.2.8) is available.

The setup should be done in sequence.

1. Define all system-related GDG base entries. You only need to do this one time.
   a. Specify **Y** in the DEF-GDG input field.
   b. Enter **S** in front of all tasks on this screen, and press the Enter key. The following screen displays:



c. Select the system where the generated JCL should be executed, and press the Enter key.

Note: If not all systems are displayed, use **R** on the command line to refresh the temporary system table.

d. Submit the generated JCL. Every GDS will have "dataplexname" as the last qualifier. When finished, return to the Generate Dataplex Related JCL screen, which is option S.2.9 from the SAW main menu.

Note: The generated JCL will be executed on the selected system itself. If the systems are not part of the JES cluster you are logged onto, you have to enter your Password for all systems that do not belong to that JES cluster.

2. Create the JCL. To do this follow these steps.

a. Type a value in "Select the items below as" input field. There are four different types of JCL, which are described in the table below.

Value	Description
J	Produces normal JCL. If you do not know which value to enter, type J.
I	Uses a pre-defined procedure as an instream procedure, and calls that procedure with valid and customized values. **Note:** If you select two or more of the tasks that are listed on the Generate Dataplex Related JCL screen, the JCL will contain one procedure call for each selected item.
P	Produces only a JCL calling procedure. **Note:** If you select two or more of the tasks that are listed on the Generate Dataplex Related JCL screen, the JCL will contain one procedure call for each selected item.

Value	Description
G	Generates the procedure in the **.PROCLIB.dataplex library, where "dataplex" is the name of your dataplex. The procedure library must be known by JES or the specified procedure data set must be part of your JCLLIB definition. For more information, refer to “Option 3: JCLLIB” on page 25.

b. Select one or more of the tasks listed on the Generate Dataplex Related JCL screen. Some tasks require additional execution parameters. The following table describes them.

Input Field	Valid Entry	Description
Max. Number of Items	Number	Specify the number of produced output tables to be held. The default is 31.
DSN:	Data set name or ?	Type the name of a partitioned data set that contains the member where you want the JCL to be stored. If the specified data set does not exist, the dialog will allocate the specified data set name. If you type a question mark (?) in the DSN field, a default library name will be returned, based on the following: • If you typed **G** in the "Select the items below as" input field, the default library name is *.*.PROCLIB, where "*.*" refers to the HLQ and SLQ defined at installation. • If you typed **J**, **I**,or **P** in the "Select the items below as" input field, the default library name is *.L*.RUN, where "*.L*" refers to the HLQ and SLQ defined at installation. **Note:** If your dataplex is local, it is recommended that you use the *.L*.RUN library for the RUN JCL data set.
Member:	member name	Type the name of the member in the partitioned data set where you want the generated JCL to be stored.

c. Select the system on which tasks should be performed, and press Enter.

Note: If more than one system is selected, the requested tasks will be generated for each selected system as a separate JOB, but stored on the same specified output data set. If "DSN:" is blank, the JCL will be stored in a temporary data set.

d. Submit the generated JCL.

Creating JCL for pool space trace processing

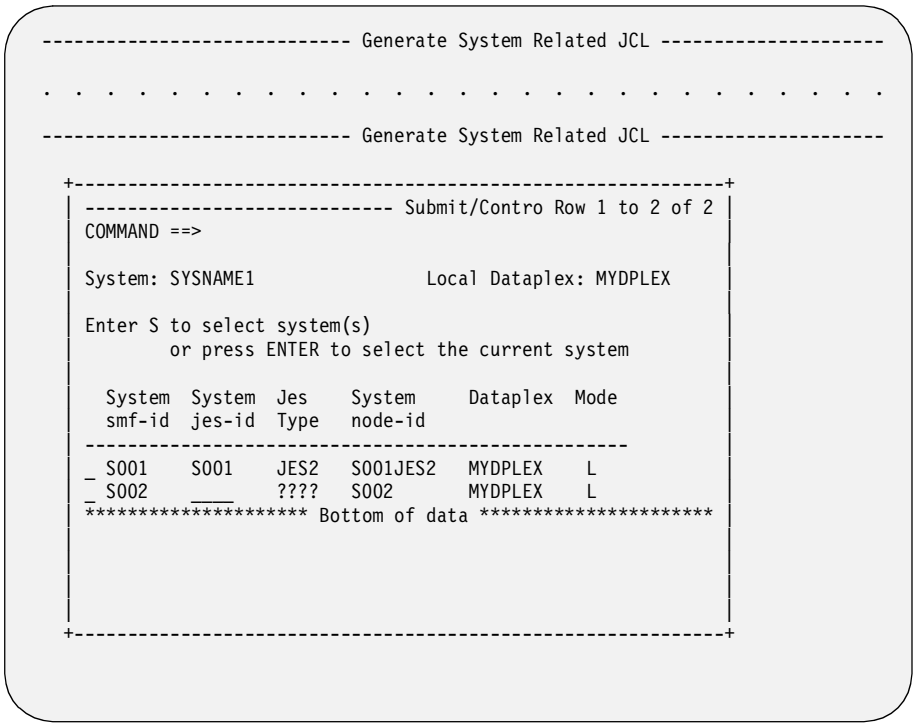
The **Pool-Trace** option on the Dataplex and System Maintenance screen traces the space situation for DASD volumes. Before you choose this option, you must specify a few parameters. To display the Dataplex and System Maintenance screen, choose option S.2 from the SAW main menu. The screen is shown below.

```
---------------------- Dataplex and System Maintenance -----------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  DATAPLEX        Maintain the Dataplex/System definition(s)

   2  SYSTEM          Display and/or update system records

   3  INVENTORY REORG Storage Administration Inventory reorganization

   4  POOL-TRACE      (dddhhmm) Create JCL (Mode : OLD Max.Num.Items: 31    )

   5  RECEIVE STC     Create JCL to receive data from remote site ( AWBSTC   )

   6  ALERT           Generate the JCL needed for ALERT process

   7  EXCEPTION REP.  Control file handling

   8  SYSTEM   JCL    Generate System related JCL

   9  DATAPLEX JCL    Generate Dataplex related JCL

  10  MISCELLANEOUS   Generate miscellaneous Dataplex related JCL

  11  AWBJ001 JCL     Generate NFTP OPC submitter

  12  AWBJ002 JCL     Generate SAI loader


   U  UNLOCK          Perform UNLOCK of the inventory
```

Option 4, **POOL-TRACE**, generates the space trace JCL. Use the Tab key to move the cursor to the "Mode:" and "Max. Num. Items" fields to specify parameters for this option. The fields are described in the next table.

Field Name	Description
Mode	This field indicates where to place the trace data. Valid values are • *OLD*. Select this to add the new trace data to the existing trace values. This is the default. • *NEW*. Select this to delete all previously generated trace data before adding the new values. The generated JCL uses NEW in the exec statement, but you when you return to the screen, the field is refreshed to the default value (OLD).
Max.Num.Items	Specify the number of previously obtained tables to keep available. Enter a value between 00001 and 99999. The default is 31.

After entering the parameters, select option 4, **POOL-TRACE**, and press Enter. A pop-up window displays where you select the system(s) on which the process should be activated. An example is shown below.



When you have made your selection, press Enter to generate the space trace JCL. The generated JCL consists of two steps:

1. Collect the space data via IDCAMS DCOLLECT.
2. Analyze the data and store the results as permanent ISPF tables.

The result can be viewed by choosing option 5, **Pool/SG Trace**, on the DASD Management menu, which is option 1.5 from the SAW main menu.

Creating JCL for alert jobs

Before you generate any JCL, you must first do the following:

- *Customize the space*. Refer to "Perform space customization" on page 55 for instructions.
- *Update the ISPF profile*. Refer to "Update the ISPF Profile" on page 56 for instructions.

You can create the JCL required to generate only the alerts. You would use the "alerts only" job if you need to run the alerts more frequently than allowed with SPA or DVP periodic jobs.

The problem may arise because the DCOLLECT step in the PERIODIC job creates both volume and data set records. However, for the alerts alone, it is only necessary to have the DCOLLECT volume records. This job will run in a significantly shorter time, but you will not have any data for the database, and you will not have any pool or volume reports. The only function of this job is to generate alerts if any alert thresholds are exceeded.

To generate an "alerts only" job, select option 6, **Alert**, on the Dataplex and System Maintenance menu (option S.2.6 from the SAW main menu). The following screen displays:

```
----------------------------- Generate System Related JCL ---------------------

   Before generating these JCLs
    update ISPF environment (S.1.7) and Configure Space (S.2.8)
COMMAND ==>

System: SYSNAME1                Local Dataplex: MYDPLEX

Select the items below as  _ (J/I/P/G)                 DEF-GDG: N  (Y/N)

  This JCL has to be created for each system in your Dataplex:

_ Collect volume space data

  This JCL has to be created only once in your Dataplex:

_ Execute ALERT process

The generated output will be stored in the following data set (? = default):
DSN: AWB.LWRK0110.RUN_______________________________ MEMBER: ________
```

Figure 2. Dataplex alert processing

Before you generate any JCL for alerts, you must first collect volume space information on each system of the dataplex. The system-related space data is stored in a system-specific GDG data set. For that reason, you must do the following before you can generate any "alerts only" JCL:

- Type **J** for JCL in the "Select items below as:" field.
- Type **Y** in the **DEF-GDG** field the first time you collect volume space data.
- Type **S** in the **Collect volume space data** field.
- Run the job.

When you are done with the volume collect process, select the **Execute ALERT Process** option and run it.

Recommendations for scheduling

Once the required JCL is created, you can schedule these jobs for routine submission using whatever scheduler that is available at your site.

Chapter 5. Performing Common Tasks

To manage storage resources, there are some tasks that must be performed each day so that problems can be identified and resolved quickly. For example, if you receive an alert that a drive is out of space, you want to address that problem immediately, not a few days from now.

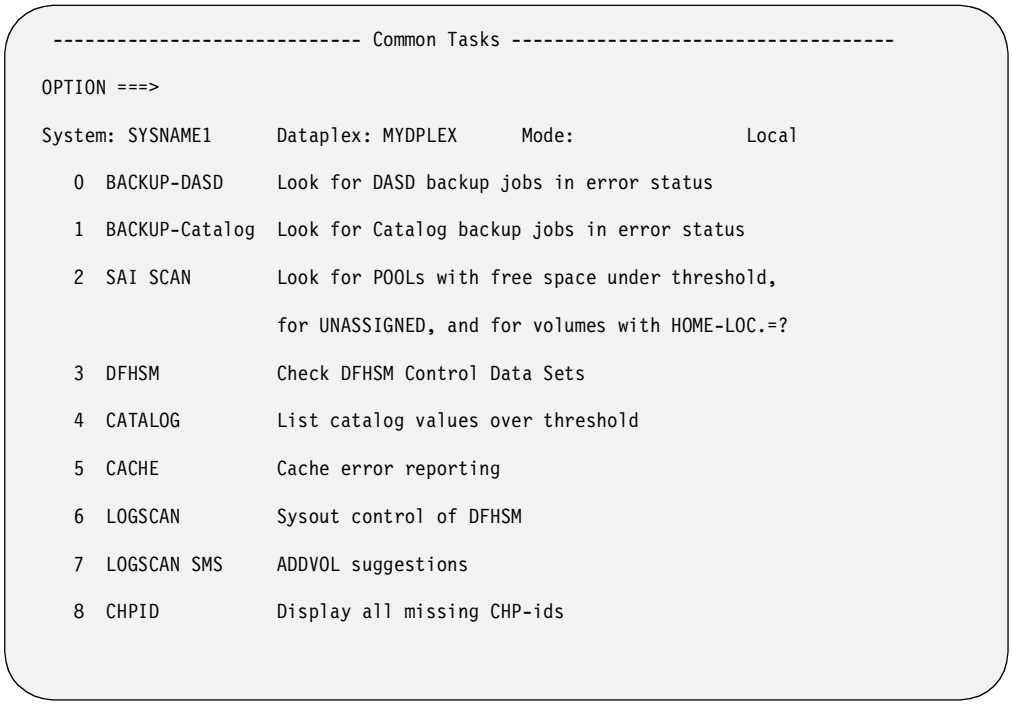
The Common Tasks option, which is option 0 on the SAW main menu, lists a number of actions that can be performed on a daily basis to monitor storage resources.

- Check for DASD and Catalog backup jobs that resulted in an "error" status.
- Check for pools with free space under the threshold amount, as well as for unassigned volumes and volumes with no Home-Loc value.
- Check DFHSM control data sets.
- View a list of catalogs that have exceeded thresholds.
- Run a LISTDATA job on cache resources to check for errors.
- Execute a LOGSCAN job, and edit ADDVOL statements for a LOGSCAN SMS job.
- Review information about the current system.
- View a list of missing channel path IDs.

By running through all of the "common tasks" each day, a storage administrator can see at a glance where problems occurred, and respond immediately.

Accessing the Common Tasks option

To see a list of tasks normally performed on a daily or regular basis, type 0 to select the **Common Tasks** option on the SAW main menu, and press Enter.



A storage administrator may want to run through these options frequently because most of the error conditions are collected here. Each of these options is described in this chapter.

Checking for errors in jobs

There are two options that check for "out of space" errors or media errors for backup jobs:

- Option 0, **Backup-DASD**, checks for errors that occurred during DASD backup jobs.
- Option 1, **Backup-Catalog**, checks for errors that occurred during Catalog backup jobs.

Both of these options are described below.

Checking DASD jobs

To check for "out of space" errors or media errors that occurred during DASD backup jobs, follow these steps:

1. On the Common Tasks menu, select option 0, **Backup-Dasd**, and press Enter. The Backup Jobs in Error screen displays:

```
------------------------- DASD Backup Jobs in Error --------------------------

COMMAND ==>                                                 SCROLL ===> CSR
                                                          Active Sort ===> V
System: SYSNAME1      Dataplex: MYDPLEX      Mode:               Local

           Onsite                                Offsite

  S Volser Backup    Last Backup   Submit     Backup    Last Backup   Submit

  t        M 1234567 Date  Time  Date  Time   M 1234567 Date  Time  Date  Time

- S --V--- 1---ON--- -----3----- -----4-----  2---OF--- -----5----- -----6-----

****************************** Bottom of data ********************************
```

The Backup Jobs in Error screen is where you see the list of onsite and offsite backups that either resulted in an error or did not complete. In the example, the screen is blank, meaning that there are no backup jobs containing errors or jobs that did not complete. The columns are briefly described in the following table.

Column Name	Description
Active Sort	Type a column abbreviation, listed below each column, to sort the records according to the data in that column. For example, to sort by Volser, you would type **V** in the Active Sort column. The records would be sorted by the Volser name.
St	The status of the backup job. Possible statuses are: • A - abend • O - obsolete • X - submitted
Volser	The volume serial number of the backup tape.

Column Name	Description
Onsite Backup M	The number below the "M" indicates the type of monthly algorithm that will be used for the monthly backup cycle. This value is taken from the algorithm list, which is in “Option 16: On/Offsite” on page 29.
Onsite Backup 1234567 On	The definition under these numbers describes the algorithm cycle for a week, where the specific day is represented by a number from one (Monday) to seven (Sunday).
Last Backup Date	The date that the last backup of this volser was finished. The date format is YYYYDDD, where YYYY is the year and DDD is the day-count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091.
Last Backup Time	The time that the last backup was finished The format for the time is HH:MM.
Submit Date	The date that the last backup job was submitted to be run. The date format is YYYYDDD, where YYYY is the year and DDD is the day count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091.
Submit Time	The time that the last backup job was submitted to be run. The time format is HH:MM.
Offsite Backup M	The number below the "M" indicates the type of monthly algorithm that will be used for the monthly offsite backup cycle. This value is from the algorithm list, which is in“Option 16: On/Offsite” on page 29.
Offsite Backup 1234567	The definition under these numbers describes the algorithm cycle for a week, where the specific day is represented by a number from one (Monday) to seven (Sunday).
Offsite Backup Date	The date that the last backup of this volser was finished for an offsite location. The date format is YYYYDDD, where YYYY is the year and DDD is the day-count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091.
Offsite Backup Time	The time that the last backup was finished for an offsite location. The format for the time is HH:MM.
Submit Date	The date that the last backup job was submitted to be run for an offsite tape. The date format is YYYYDDD, where YYYY is the year and DDD is the day-count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091.
Submit Time	The time that the last backup job was submitted to be run for an offsite tape. The time format is HH:MM.

2. If there is a backup job with errors, the first command you may want to use to determine the cause of the error is the **I** line command. This displays space information for the disk on which the catalog resides. This and other line commands are described in the next table.

Line Command	Description
C	Enter C to branch to ISPF option 3.4, the Data Set List Utility. This can be used if the sysout is stored on DASD.
I	Enter I to see information about the backup job. SAW will show the actual space situation for that disk.
R	Enter R to re-activate the backup job.

Checking catalog jobs

To check for "out of space" errors and media errors for backup jobs of catalogs, follow these steps:

1. On the Common Tasks menu, select option 1, **Backup-Catalog**, and press Enter. The following screen displays:

```
----------------------------- Catalog Maintenance ---------- Row 1 to 12 of 17

COMMAND ==>                                          Sort => S    SCROLL => CURS
                                                       F10  = LEFT / F11  = RIGHT
System: YZO2YZO2      Dataplex: YZDPLEX      Mode:                Local

Enter U  for updates,
      D  for deletes,
      I  for DIAGNOSE process,
      B  for BACKUP JCL creation.
                                       Home-Loc                        Submit
S # Catalog Name                       SMF  JES   volser devt.   date   time
- T ------------N---------------------- ---H----   --V--- --D---  ---S--- -----

  U ICF.HSM.CAT1                       YZO2YZO2   SG1000 3390    2002045 12:09

  U ICF.DEV.CAT1                       YZO2YZO2   DEV002 3390    2002045 12:09

  U ICF.DB2.CAT1                       YZO2YZO2   SYS001 3390    2002045 12:09

  U CATALOG.YZ99.MASTER                YZO2YZO2   RESCUE 3390    2002045 12:09

  U CATALOG.YZ11.MASTER                YZO2YZO2   MCAT11 3390    2002045 12:09

  U CATALOG.YZO2.USERCAT               YZO2YZO2   SG1000 3390    2002045 12:09

  M CATALOG.OS390.MASTER               YZO2YZO2   OS39M1 3390    2002045 12:09

  U USERCAT.VOS39R8                    YZO2YZO2   OS39R8 3390    2002045 12:09

  U USERCAT.VOS39P8                    YZO2YZO2   OS39P8 3390    2002045 12:09

  U USERCAT.VOS39D8                    YZO2YZO2   OS39D8 3390    2002045 12:09

  U USERCAT.VOS3P8B                    YZO2YZO2   OS3P8B 3390    2002045 12:09

  U USERCAT.VOS3PAD                    YZO2YZO2   OS3PAD 3390    2002045 12:09
```

The example screen above shows several backup jobs for catalogs. The following information applies:

- **If a backup job completed successfully,** the Submit columns to the right of the screen will be blank.
- **If a backup job resulted in errors,** the Submit columns will display the date and time that the failed job was submitted. The only time that the Submit Date and Submit Time columns contain data is when a backup job has failed.

The columns on the Catalog Maintenance screen are described in the table below. There are additional columns that can only be displayed when you page right (F11) on the screen. These columns are also described in the following table:

Column Name	Description
#	The letter in this column indicates what type of catalog this is. Possible values are: • M - master catalog • U - user catalog • X - excluded from all processing • O - obsolete catalog
Catalog name	Indicates the name of the catalog.
Home-Loc	Contains the SMF- and JES-ID of that system where the catalog backup should be processed.
Volser	This is the volume serial where the catalog is allocated.
devt	Indicates the device type of the volume. Possible values are: • 3380 • 3390
Submit Date	The date that the last backup job was submitted to be run. The date format is YYYYDDD, where YYYY is the year and DDD is the day count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091. If the backup was successful, this column will be blank.
Submit Time	The time that the last backup job was submitted to be run. The time format is HH:MM. If the backup was successful, this column will be blank.
Last Backup Date	Indicates the date that the last backup was successfully completed. The date format is YYYYDDD, where YYYY is the year and DDD is the day count (Julian date). For example, April 1 is the 91st day of the year, so April 1, 2002 is shown as 2002091.
Last Backup Time	Indicates the time that the last backup was successfully completed. The format for the time is HH:MM.

2. If there is a backup job with errors, the first line command you may want to enter is the **I** line command, which uses the IDCAMS DIAGNOSE command to determine the cause of the error. This and other line commands are described in the table below:

Line Command	Description
U	Perform updates to the catalog.
D	Delete a catalog table entry.
I	Use the IDCAMS DIAGNOSE command for this catalog.
B	Create the JCL that generates a backup of the catalog.

Checking pools

The Storage Administration Inventory (SAI) is a database that SAW uses to store data. A storage administrator can use option 2, **SAI**, on the Common Tasks menu (option 0.2 on the SAW main menu) to look for pools that have any of these conditions:

- An amount of free space that is less than the threshold amount, which indicates that you are running low on free space. Page right to see this information.
- Pools that are unassigned, which are indicated with either "#UNKNOWN" or "#UNKNSMS" as the assigned pool name.

  To assign the pools to a volume, do the following:

  1. Type **S** next to the "#UNKNOWN" or "#UNKNSMS" name and press Enter. The Dataplex Maintenance screen appears, listing all of the pools currently assigned to #UNKNOWN or #UNKNSMS.
  2. Type **A** next to the volser you want to change, and type a valid pool name in the "Assigned Pool" column.
- Volumes that do not have a HOME-LOC value.

  To assign HOME-LOC values, do the following:

  1. Go to the Dataplex Maintenance screen (option 0.2, S from the SAW main menu).
  2. Type **A** next to the volser you want to change.
  3. Type a new value in the "Home-Loc" column.

When you choose option 2, **SAI**, on the Common Tasks menu (option 0.2 from the SAW main menu), the following screen displays:

```
 -------------------- SAI Scan Pools and Storage Groups |-|   Row 1 to 14 of 19

COMMAND ==>                                          Sort => P     SCROLL => CSR
                                                       F10  = LEFT / F11  = RIGHT
System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

Valid Line Commands are: D, H, S, T, U

  Assigned  SG Volume|Application|  Backup on/offsite     | Housekeep | Col. Dsn
  Pool-Name PO Count  | Pool Name | M 1234567 | M 1234567 | U R C D X | det. Rep
- ----P---- -- --V-- | ---AP---- | 1 --ON--- | 2 --OFF-- | U-R-C-D-X |--8----9-
_ #UNKNOWN  P   0036 | ________  |           |           |           |  Y    Y
_ #UNKNSMS  SG  0000 | ________  |           |           |           |  Y    Y
_ DEFAULT   SG  0001 | ________  |           |           | 1 7 7 1   |  Y    Y
_ HSM-MIG   P   0002 | ________  |           |           | 7 6 6 7 X |  Y    Y
_ SGDB21    SG  0005 | ________  |           |           |       X X |  Y    Y
_ SGDB2TMP  SG  0002 | ________  |           |           |           |  Y    Y
_ SGDEV1    SG  0005 | ________  | 9  I F V  | 0       X |       6   |  Y    Y
_ SGDEVBK1  SG  0003 | ________  |           |           |           |  Y    Y
_ SGDUMP1   SG  0003 | ________  |           |           |           |  Y    Y
_ SGHFS1    SG  0002 | ________  |           |           |           |  Y    Y
_ SGOMVS1   SG  0001 | ________  |           |           |           |  Y    Y
_ SGPMR1    SG  0003 | ________  |           |           |           |  Y    Y
_ SGSG1A    SG  0002 | ________  |           |           |           |  Y    Y
_ SGSG2A    SG  0002 | ________  |           |           |           |  Y    Y
```

The fields on the Pools and Storage Groups screen are described in the next table.

Column Name	Description
Assigned Pool-Name	This is the one- to eight-character name of the pool or storage group.
SG PO	This column displays a "P" for a pool or "SG" for a storage group.
Volume Count	This field lists the number of volume serials assigned to a pool or storage group.
Application Pool Name	This name must be defined for each entry and is used in SPA reporting. It is used to gather different physical pools or storage groups that are under the same activity, and then to report one identifier for the group. For example, pool ML1 + pool ML2 + pool backup = application pool name DFHSM.
Backup Onsite M 1234567	The character below the "M" indicates the type of monthly algorithm used for monthly backup cycles. The definition under the characters one through seven describes the cycle for a week, where the specific day is represented by a number. Refer to “Option 16: On/Offsite” on page 29 for a complete list of algorithms and their corresponding codes.
Backup Offsite M 1234567	The character below the "M" indicates the type of monthly algorithm used for monthly backup cycles. The definition under the characters one through seven describes the cycle for a week, where the specific day is represented by a number. Refer to “Option 16: On/Offsite” on page 29 for a complete list of algorithms and their corresponding codes.
Housekeeping	The value in this column describes the Housekeeping criteria: • U - Defines the UNCATALOG DELETE process. • R - Defines the RELEASE UNUSED process. • C - Defines the COMPRESS process. • D - Defines the DEFRAG process. • X - Defines the SPECIAL DELETE process. Under each of the above columns, you may see a number from one to seven (1 - 7) to indicate which day of the week the process is performed, or you may see an "X", which indicates that this process is performed daily. To add housekeeping criteria, follow these steps: 1. Type the "U" line command next to the pool or storage group name that you want to update. 2. When the Pool Management screen displays, make entries in one or more of the housekeeping fields, which are fields 20 - 24. 3. Press Enter, then press F3 (End) to leave this screen. Your updates will be reflected on the Pools and Storage Groups screen.

Column Name	Description
Col. det.	This value indicates if DCOLLECT will collect data set information (details) or only volume data. • If you enter **N**, DCOLLECT will not run on the pool or storage group to collect data set details. The data set reporting flag must also be set to N. • If you enter **Y**, DCOLLECT will run on the pool or storage group to collect data set details. The collect volume flag must also be set to Y. To change the options used for data collection, follow these steps: 1. Type the "U" line command next to the pool or storage group name that you want to update. 2. When the Pool Management screen displays, type the number of the option you want to change and press Enter. You can then type a value for that option.For example, type **3** to select option 3, **Collect Volume**, and press Enter, then type Y or N. Make entries for the Collect Volume and the Collect Details fields to indicate whether you want only volume information collected (Y in Collect Volume), or both volume and details (Y in Collect Volume and in Collect Details). To collect details, you must also collect volume information, which is why you need a "Y" in both fields. 3. If you enter **Y** for Collect Volume and the Collect Details, you can then enter**Y** in the Data Set Reporting Flag field. This field is only useful if you are collecting both volume and detail information. 4. Press Enter, then press F3 (End) to leave this screen.
Dsn Rep.	The value in this column indicates if data set reporting is requested. If a "Y" is listed in this field, then a "Y" must also be specified for the Collect Detail and Collect Volume fields on the Pool Management screen. See the instructions in the Col. Det. section of this table for details.
Space-Health % Num Size	The values in these columns are the thresholds for pool space health checking. The percentage (%) column indicates the percentage of volumes on which at least this number (Num) of extents (allocations per volume) of this size (Size in MB) must be available. Valid numeric values are: • %: 000 to 100 • Num: 00000 to 99999 • Size: 00000 to 99999 To change the space health values, follow these steps: 1. Type the "U" line command next to the pool or storage group name that you want to update. 2. When the Pool Management screen displays, make entries in one or more of the "pool space health checking" fields, which are fields 12 -14. 3. Press Enter, then F3 (End) to leave this screen.

Column Name	Description
Free DSCB	This column lists the threshold for free DSCB percentage. Valid numeric values are from 00 to 99. A "greater than" sign (>) signifies that the threshold is exceeded.
Free VIRS	This column lists the threshold for free VIRS percentage. Valid numeric values are from 00 to 99. A "greater than" sign (>) signifies that the threshold is exceeded.
Util %	This column lists the threshold for the pool or storage group target utilization percentage. Valid numeric values are from 000 to 100. A "greater than" sign (>) signifies that the threshold is exceeded.
Vol %	This column lists the threshold for the maximum utilization percentage of any volume in the pool or storage group. Valid numeric values are from 000 to 100. A "greater than" sign (>) signifies that the threshold is exceeded.
Unused %	This column lists the threshold percentage for unused space on that pool or storage group. Unused space is the difference between allocated space and available space. Valid numeric values are from 00 to 99. A "greater than" sign (>) signifies that the threshold is exceeded.
Buff %	This column lists the threshold target percentage of space that should be available as "eligible for migration". Valid numeric values are from 00 to 99. A "greater than" sign (>) signifies that the threshold is exceeded.

You can use the following line commands on the "SAI Scan Pools and Storage Groups" screen.

Line Command	Description
D	Delete a pool or storage group table entry.
H	Display or update the pool or storage group handwriting.
S	Select all volumes assigned to a pool or storage group.
T	Display pool or storage group trends.
V	Update management and threshold values.

Checking DFHSM control data sets

To check the status of control data sets, such as percentage free, select option 3, **DFHSM**, on the Common Tasks menu (option 0.3 on the SAW main menu). A screen similar to the following will display:

```
Migration Control Data Set (MCDS): HSMPROD.MCDS

   DATA ------- HSMPROD.MCDS.DATA,  Number of records:          1357

This CDS is 96 percent free , with     25 CI splits,     2 CA splits


Backup Control Data Set    (BCDS): HSMPROD.BCDS

   DATA ------- HSMPROD.BCDS.DATA,  Number of records:         36634

This CDS is 66 percent free , with    1049 CI splits,     29 CA splits

      ==> (May need reorganization soon.)


Offline Control Data Set   (OCDS): HSMPROD.OCDS

   DATA ------- HSMPROD.OCDS.DATA,  Number of records:           611

This CDS is 97 percent free , with     13 CI splits,     2 CA splits

***
```

The example shows the type of information that is reported when you use the DFHSM option on the Common Tasks menu. The information includes:

- the name of the migration control data set (MCDS)
- the name of the backup control data set (BCDS)
- the name of the offline control data set (OCDS)
- the number of records in the data set
- the amount of free space in this control data set (CDS)
- the number of CI splits
- the number of CA splits.

A CI split occurs when a CI (Control Interval) has no room to expand an updated record or insert a new record. Half of the records are copied to an empty CI in the data set. A CA split occurs when a CA (Control Area) no longer has room to build a CI. More CIs are created in additional tracks.

Using catalog thresholds

There are two thresholds related to catalogs that you can set and check:

- Number of extents for catalogs
- Number of records per catalog

The steps for setting and checking the thresholds are described below.

Setting thresholds for catalogs

To set the thresholds, use the Catalog Parameters option on the Control File Maintenance screen, which is option S.2.7.14 from the SAW main menu, and make your edits to the JCL that displays. An example of the JCL is shown below:

```
  File  Edit  Confirm  Menu  Utilities  Compilers  Test  Help

sssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT       AWB.LWRKO110.SKELS.RKSPLEX(AWBS240) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** ***************************** Top of Data ******************************
000001 * CATALOG THRESHOLDS
000002 *
000003 * SAMPLE FILE CREATED ON 27/09/93 BY TE SMP. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 *CATALOG=7,RECORDS=25000
000008 *
000009 *CAT='UCAT.MEDAO1',RECS=45000
000010 *CAT='MCAT.MSBCAO',RECS=1000
****** **************************** Bottom of Data ****************************
```

The parameters you can modify are:

Parameter	Description
CATALOG	Specify the threshold number of extents for catalogs.
RECORDS	Specify the threshold number of records per catalog.
CAT	Specify a fully qualified data set name if you want a special RECS (records) threshold on the catalog.

Type the values you want for these parameters. When you run the JCL, an exceptions report is produced.

Checking catalog thresholds

Use option 4, **Catalog**, on the Common Tasks menu (option 0.4 from the SAW main menu) to see if any thresholds were exceeded for catalogs. If not, a message displays indicating that there are no errors. If a threshold was exceeded, the information is listed on the screen.

Checking for cache errors

To check for errors in cache resources, select option 5, **Cache**, on the Common Tasks menu (option 0.5 from the SAW main menu). SAW will execute a LISTDATA job on cache resources online, and display the results in a browse session. The data is stored in a temporary file. An example is shown below:

```
Program name: AWBC069, Application Short Name: SAW, Compiled on: 24 April 02 13:4

AWBWB74I Processing -  Local Dataplex TSOB
------------------------------------------------------------------------------------------
-
AWBWB35E NVS   status other than target SSID=0011
AWBWB31E DFW   status other than target SSID=0011 VOL=HBKB01 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=HBKB02 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=HBKB03 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=HL1B01 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=MDLP02 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=MSBCA0 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=MSBPG0 (St.=I Targ.=A)
AWBWB31E DFW   status other than target SSID=0011 VOL=MSBPP1 (St.=I Targ.=A)
```

If there are no cache errors to report, you will see the following message:

```
NO CACHE ERRORS FOUND
***
```

Using LOGSCANs

Use option 6, **LOGSCAN**, on the Common Tasks menu (option 0.6 from the SAW main menu) to display the results of LOGSCAN jobs. Option 7, **LOGSCAN SMS**, (option 0.7 from the SAW main menu) indicates which volumes should be processed with an ADDVOL in a dummy ARCCMD00 needed by LOGSCAN.

Display missing CHPIDs

To view a list of all of the missing channel path IDs, select option 8, **CHPID**, on the Common Tasks menu (option 0.8 from the SAW main menu). The Missing CHPID screen will appear. An example of this screen is shown below:

```
----------------------------- Missing CHPID -----------------------------------

COMMAND ==>                                                  SCROLL ===> CSR
                                                          Active Sort ===> U
System: YZ02YZ02      Dataplex: YZSPLEX      Mode:               Local

            Log.         Mnt.                            Pag Physical PDF
VOLSER UCB  Devt.  Cache Stat Channel-Path-Id Mask     Dev Dev-Type Abbrev.
V----- U--- T----M C---- S--- X----------------------- P-- Y----W-- A-------
ST0004 0220 3380 E       PRV  24-2C+** ** ** ** ** **      9393 001 RVA1
HL1B02 0221 3380 E       PRV  24-2C+** ** ** ** ** **      9393 001 RVA1
ST0003 022D 3380 E       PRV  24-2C+** ** ** ** ** **      9393 001 RVA1
****************************** Bottom of data ********************************
```

The columns on this screen are described below:

Column	Description
VOLSER	This is the volume serial number of the volume that contains the problem channel path ID.
UCB	This refers to the name of the unit address (unit control block) where the volume is mounted.
Log. Devt.	This is the unit type of the volume with the model version listed under the "M".
Cache	This field displays the status of the cache.
Mnt. Stat.	This column describes the maintenance status per volume on each system where the volume is known. The status displayed is one of the following: • **PRV**: Private • **STO**: Storage • **PUB**: Public A code is concatenated to the status. Valid codes are: • **P**: paging device • **S**: SMS-managed device • *: system-resident volume
Channel-Path-ID Mask	This column lists the channel path ID and mask that are missing or having a problem.
Pag. Dev.	This column indicates whether the volume is "Page" (P) or system residence (*).
Physical Dev. Type	The values in this data column represent the physical device type and model assigned to a volume. These values come from the default values set during the customization or in the string assignment dialog.
PDF Abbrev.	The abbreviation ID of HCM's physical description templates. This value is a generic name, called "physical description template" in Hardware Configuration Manager, for a volume. This value comes from the default value set during the customization or in the string assignment.

Chapter 6. Customizing, Creating, and Viewing Reports

This chapter describes the reports that are available with Storage Administration Workbench (SAW), and the many ways you can customize the reports. Instructions are provided for customizing and generating the reports, and sample reports show the end results.

There are three main topics covered in this chapter:

- **Customizing reports**, which describes the many parameters you can use in JCL to set thresholds for data in the reports.
- **Generating reports**, which describes the screens you use to generate the reports once you have entered all the customization parameters.
- **Viewing reports**, which describes how to view the reports you have generated, and presents an example of each report.

The primary reports available with SAW include:

- Hierarchy view
- Application view with storage group/pool
- Storage group/Pool view
- User report (hierarchy view)
- Exceptions (application and storage)
- Data set reports
- Volume/Pool reports
- Exceptions (volume and pool)
- Packmap (diagram)
- Volume list
- LOGSCAN summary report
- Migration actions
- Backup actions
- DFHSM activity log

The primary reports may contain several sections in them, based on the customization parameters you specify. For example, a Data Set report could contain one or more of the following sections:

- Data sets created within last xxx days which are greater than xxx Mb
- Data sets on disk that should be on tape (over xxx Mb and older than xxx days)
- Data sets on tape that should be on disk (tape space allocation less than xxx Mb)
- Distribution of unreferenced data sets
- Data sets that are over threshold extents (VSAM and non-VSAM)
- Multi-volume data sets

The parameters for customizing threshold values for the reports are described in the next section, followed by generation instructions and sample reports.

Customizing reports

Report customization is accessed through option 7, **Exception Rep.**, on the Dataplex and System Maintenance menu (option S.2.7 from the SAW main menu). When you select this option, the following screen appears:

```
---------------------------- Control File Maintenance -----------------------

OPTION ==>


System: RSO2RSO2      Dataplex: RKSPLEX      Mode:                Local


   1  Main parameters for reporting

   2  Tape data set eligibility report parameters and exclusions

   3  Multivolume data set report exclusions

   4  Extent threshold data set report exclusions

   5  New data set report exclusions

   6  DVP daily parameters

   7  DVP periodic parameters

   8  SPA plan file

   9  SPA match process modifications

  10  SPA exclude data set prefix

  11  SPA Hierarchy file (EDIT)

  12  SPA HLQ List (EDIT)

  13  SPA hierarchy and HLQ list maintenance dialog

  14  Catalog parameters (defaults and catalogs which differ)

  15  ALERT processing parameters

  16  DFHSM LOGSCAN SMS ADDVOL

  17  DFHSM LOGSCAN SMS ADDVOL suggestions (when above is empty)
```

When you choose any of these options, the sample JCL for that option is displayed in Edit mode. The JCL is in a member of a partitioned data set (PDS), **.L*.SKELS.dataplexname*, where the asterisks represent the HLQ and the SLQ that were allocated at installation time. You can then edit the JCL so the parameters reflect the thresholds you want. In the sections that follow, the JCL and parameters associated with each option are described.

Option 1

When you choose option 1, **Main parameters for reporting**, on the Control File Maintenance menu (option S.2.7.1 on the SAW main menu), the following JCL displays:

```
EDIT       AWB.LWRKO110.SKELS.RKSPLEX(AWBS317) - 01.09     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** **************************** Top of Data ******************************
000001 * THRESHOLDS
000002 *
000003 * SAMPLE FILE CREATED ON DD/MM/YY. PLEASE LOG ALL CHANGES
000004 *
000005 EXTS_VSAM=60,EXTS_NONVSAM=07
000006 *
000007 NEWDS_SIZE=450
000008 WITHIN_DAYS=4
000009 *
000010 UNREF_AGE=10
000011 UNREF_AGE=30
000012 UNREF_AGE=100
000013 UNREF_AGE=400
000014 UNREF_AGE=740
000015 *
000016 PLANWARNING_PCT=90
000017 LOWACTUAL_PCT=5
000018 JUMPMB=100
000019 JUMPPERC=50
000020 *
000021 POOL_HEALTH_ALERT_PCT=50
000022 POOL_UNUSED_ALERT_PCT=50
000023 POOL_UTIL_ALERT_PCT=50
000024 VTOC_DSCB_ALERT_PCT=50
000025 VTOC_VIRS_ALERT_PCT=50
000026 *
000027 DASD_BACKUP_APPL_REPORT = 'YES'
000028 *
000029 RVA_NCL_ALERT_PCT = 75.0
000030 RVA_NCL_WARNING_PCT = 70.0
000031 *
000032 RVA_SHR= DE10EH1(MEFXX 30, MEFSB 40)
000033 RVA_SHR= DE10EH1(MEFZZ 10, MEFSB 30, MEFSZ 20)
000034 *
```

All of the parameters that are listed in the JCL for option 1, **Main parameters for reporting**, are described below:

Table 4. Main parameters for reporting

Parameter	Description
EXTS_VSAM=xxx (for data set extent reporting)	Enter a number between 000 and 999 to specify the maximum number of data set extents on VSAM files. An exception is sent to the storage administrator if the actual number of extents exceeds the threshold number.
EXTS_NONVSAM=yyy (for data set extent reporting)	Enter a number between 000 and 999 to specify the maximum number of data set extents on non-VSAM files). An exception is sent to the storage administrator if the actual number of extents exceeds the threshold number.
NEWDS_SIZE=xxx (for new data set allocations)	Enter a number between 000 and 998 to specify the threshold in MB of any new data sets that were created within the last "x" days, referenced by the following parameter (below). An entry of 999 means "no threshold". Data sets must be larger than the threshold number to be included in the report.
WITHIN_DAYS=yyyy (for new data set allocations)	Enter a number between 0 and 9999, where 0 is today, 1 is yesterday, and so on, to specify the highest age that is acceptable for data set creation. Data sets must have been created in the last yyyy days to be included in the report. This parameter is used in conjunction with the NEWDS_SIZE parameter.
UNREF_AGE=nnnn	Enter a number between 0001 and 9998 for number of days. This threshold represents the highest value in an age range for non-usage of data sets, referred to as "unreferenced" data sets. You can use the UNREF_AGE=nnnn parameter up to eight times. The parameters can be specified in any order, so there is no need to sort them. You do not need to specify 9999 for the highest value. It is automatically assigned as the highest value for the last age range. There will also be a section in the report for those data sets without a last referenced date. When you have finished editing the JCL, you submit the JCL to run the report. To view the Distribution of Unreferenced Data Sets report, choose option 5, **Reporting**, on the SAW main menu, then select report **D1**.

Table 4. Main parameters for reporting (continued)

Parameter	Description
PLANWARNING_PCT='xxx' (for SPA application plan exceptions)	Specify a percentage for the plan warning threshold. When applications reach this percentage of their planned usage space, an exception is raised. This gives you time to take action before the plan is exceeded. For example, if the PLANWARNING_PCT is 90%, then a warning message will be produced when any application uses more than 90% of its planned space.
LOWACTUAL_PCT= 'xxx' (for SPA application plan exceptions)	Specify a percentage for the low warning threshold. When applications use less than this percentage of their planned space usage, an exception is raised. For example, if the LOWACTUAL_PCT is 5%, a warning message will be produced when any application uses less than 5% of its planned space.
JUMPMB=xxxxxx (for SPA application plan exceptions)	Type a number between 000000 and 999999 to specify the megabytes limit for applications to change their space usage on a dataplex, usually in a single day. If an HLQ or application "jumps" by more than xxxxxx Mb, an exception is raised. For example, if JUMPMB = 100, a warning will be issued if an application's space usage increases by 100 Mb in one day.
JUMPPERC=xxx (for SPA application plan exceptions)	Type a number between 000 and 100 to specify the percentage limit for applications to change their space usage on a dataplex, usually in a single day. If an application makes a sudden "jump" by more than xxx%, an exception is raised. For example, if JUMPPERC=50, a warning message will be issued if an application grows by 50% in one day. The jumps are usually checked by comparing consecutive days, but it depends on how often you run the Daily SPA job steps. The thresholds are used to produce the SPA Exception Report. To view this report, select option 5, **Reporting**, on the SAW main menu, then choose report **S5**.

Table 4. Main parameters for reporting (continued)

Parameter	Description
POOL_HEALTH_ALERT_PCT='xxx' (The percentage listed here, and in the next seven parameters, is relative to the exception percentage that is stored in the SAI.)	Enter a percentage between 000 and 100 to specify when to trigger a pool health alert. This alert indicates when pools have a health percentage above an exception threshold. If you set the threshold to zero (0), no check will be performed, so no alert will be generated on this threshold. **Note:** Refer to"Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
POOL_UNUSED_ALERT_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger a pool unused space alert. This alert indicates when pools have an "unused space" percentage above the exception threshold. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
POOL_UTIL_ALERT_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger a pool utilization alert. This alert indicates when pools have a utilization percentage above an exception threshold. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
VTOC_DSCB_ALERT_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger a volume VTOC alert. This alert indicates VTOCs that have a free DSCB percentage below an exception threshold. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
VTOC_VIRS_ALERT_PCT-'xxx'	Enter a percentage between 000 and 100 to specify when to trigger a volume VIRS alert. This alert indicates when VTOCs have a free VIRS percentage below an exception threshold. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
RVA_NCL_ALERT_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger an RVA NCL volume alert. This alert indicates when RVA subsystems have a utilization percentage above an exception threshold. **Note:** Refer to the "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.

Table 4. Main parameters for reporting (continued)

Parameter	Description
RVA_NCL_WARNING_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger an RVA NCL (Net Capacity Load) volume warning. This alert indicates when RVA subsystems have a utilization percentage above an exception threshold. As a "warning," you may want to list a different number here than for the alert. For example, you could specify 70% for the RVA_NCL_WARNING_PCT parameter, while specifying 75% or 80% for the RVA_NCL_ALERT_PCT parameter. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
RVA_SHR_WARNING_PCT='xxx'	Enter a percentage between 000 and 100 to specify when to trigger an RVA volume warning. RVA_SHR refers to the percentage that each dataplex sharing the array is expected to use. If the actual amount is more than the threshold you specify here, an RVA volume warning message is sent. **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.
RVA_SHR= rrrrrrrr (ddddddddd ppp) (for RVA subsystems utilization)	Type a string to indicate that the same RVA machine utilization percentage should be used between two or more systems. An alert is raised when the RVA usage of a subsystem by the dataplex is greater than the limit. • *rrrrrrrr* - the rva subsystem ID. • *ddddddddd* - the dataplex name. • *ppp* - the percentage to apply to the RVA_NCL_ALERT_PCT. Alert limit = `Disk array capacity * rvs_ncl_alert_pct * ppp / 100*100` **Note:** Refer to "Determining alert percentages" on page 90 for more information on how to determine an appropriate value for this parameter.

Table 4. Main parameters for reporting (continued)

Parameter	Description
RVA_EXCLUDE= ssssssss REASON(rr) EXPIRE(yyyymmdd) (for RVA subsystems utilization)	Type a string to indicate a period when the RVA machine data should be suspended. After the indicated period, the RVA machine data will be reported automatically. • *ssssssss* - the RVA subsystem ID. • *rr* - the reason code to explain why the RVA subsystem must not be considered during report production. • *yyyymmdd* - the date after which the exclusion will be ignored. For example, 20020930 indicates September 30, 2002. **Note:** Refer to "Determining alert percentages" for more information on how to determine an appropriate value for this parameter.
DASD_BACKUP_APPL_REPORT='yyy' (for SPA application reports)	Type "YES" or "NO" to indicate whether the backup space must be included in the reports per application. A value of "YES" is recommended.

Determining alert percentages

To access the Pool Management screen, choose option 1, **DASD**, on the SAW main menu, then type **U** (update) next to a pool. The screen on the next page displays.

```
----------------------------- Pool Management --------------------------------
OPTION ==>

System: RSO2RSO2                Local Dataplex: RKSPLEX  Pool: HSM-MIG1

   0  Application POOL : ________            5  Pool   utilization Perc.: 085

   1  Free DSCB        : 15                  6  Volume utilization Perc.: 100

   2  Free VIRS        : 15                  7  Unused space Percentage : 15

   3  Collect volume   : Y                   8  Buffer      Percentage  : 15

   4  Collect detail   : Y                   9  Data set reporting flag : Y

      ----------------- M 1234567 Active backup functions using DFDSS --------

  10  On-site Algorithm:

  11  Offsite Algorithm:

      ----------------- POOL space health checking ---------------------------

  12  Percentage       : 000                    Percentage

  13  Number           : 00000                  Number of allocations per VOL.

  14  Size             : 00000                  Size of allocations, in MB

      ----------------- Active housekeep functions using DFDSS ---------------

  20  Uncatalog Delete : _      ________

  21  Release Unused   : _      ________

  22  Compress PO-Libs : _      ________

  23  Defrag           : _      ________

  24  Spec.-Delete Opt.: _      ________
```

The percentage thresholds that you specify on the Pool Management screen apply to all volumes of the related pool or storage group. The "alert" percentages that you specify through option S.2.7.1, **Main Parameters for Reporting**, relate to the exception thresholds that you specify on the Pool Management screen. Whenever you change one of the exception thresholds on the Pool Management screen, the alert percentages are adjusted automatically.

If an alert value indicates when a threshold is being *exceeded*, the alert percentage applies to the difference between 100% and the exception threshold. For example, if you specify a pool utilization percentage of 85% on the Pool Management screen, the difference is 15% (100 - 85 = 15). If you then specify 50% for the pool utilization alert parameter (POOL_UTIL_ALERT_PCT=50), the alert will be triggered when 50% of the 15% is reached (7.5%), which is added to the 85% for the exception threshold (100%-85% = 15%, and 50% of 15% is 7.5%, so 85% + 7.5% = 92.5%). In this example, the alert will be triggered when the application reaches 92.5% of pool utilization.

If an alert value indicates when an application is *lower than* the threshold value, the alert percentage applies to the value listed for the exception threshold. For example, if you specify a Free DSCB threshold of 15% on the Pool Management screen, and an alert parameter of 50% (VTOC_DSCB_ALERT_PCT=50), the alert will be triggered when 7.5% (50% of the 15%) is reached. In this example, the alert will be triggered when the application has only 7.5% free space.

Generating alert jobs

To generate alert jobs, select option 6, **Alert**, on the Dataplex and System Maintenance screen (option S.2.6 from the SAW main menu), and press Enter. The following screen displays:

```
----------------------------- Generate System Related JCL ---------------------

 COMMAND ==>

System: RSO2RSO2               Local Dataplex: RKSPLEX

Select the items below as  _ (J/I/P/G)                DEF-GDG: N  (Y/N)

  This JCL has to be created for each system in your Dataplex:
S Collect volume space data

  This JCL has to be created only once in your Dataplex:
S Execute ALERT process

The generated output will be stored in the following data set (? = default):
DSN: AWB.LWRKO110.RUN_______________________________ MEMBER: ________
```

The following table describes the fields on this screen.

Table 5. Fields used to generate alert JCL

Field	Description
Select the items below as (J/I/P/G)	Enter one of the following values to indicate the type of generation you want to perform: • J - Generates normal JCL. • I - Uses a pre-defined procedure as an in-stream procedure, and calls that procedure with valid and customized values. • P - Produces only a JCL-calling procedure. It generates the EXEC that calls the PROC. • G - Generates the procedure in the SMPSHR.SAWR.PROCLIB.dataplex library. If you do not know which value to choose, use **J**.
DEF-GDG	Type **Y** or **N** to indicate whether you want to define a generation data group. This process should only be done once (Y). If you have created a GDG before, type an **N** in this field.
Collect volume space data	Type **S** to generate the JCL to run DCOLLECT on "V" records only. DCOLLECT must run on each system of the dataplex. DCOLLECT output is written into a GDS file with a limit of one generation.
Execute ALERT process	Type **S** to run the alert processing for the whole dataplex. All of the GDS's that result from performing a DCOLLECT on the various systems of the dataplex are concatenated. Actual figures are compared to the different thresholds to generate alerts based on the results of the comparison.

You can create the JCL required to generate only the alerts. While this information is generated during the DVP periodic job, you may need to run alert jobs more frequently.

Note: "DVP" refers to Datasets, Volumes, and Pools.The DCOLLECT step in the DVP periodic job creates both volume and data set records. However, for alerts alone, it is only necessary to have the DCOLLECT volume records, which runs in a significantly shorter time. This generates alerts if any alert thresholds have been exceeded, but does not provide any data for the database and does not generate any pool or volume reports.

Prior to the alert process itself, volume space information must be collected on each system of the dataplex. The system-related space data is stored in a system-specific GDG data set. The first time you process a GDG data set, do the following:

1. Type **Y** in the DEF-GDG field.
2. Type **S** in the "Collect volume space data" field.
3. Execute the job.
4. After the completion of the volume collect process, type **N** in the DEF-GDG field and **S** in the "Execute ALERT process" field.
5. Execute the job.

Be sure you only type a "Y" in the DEF-GDG field the first time you create a GDG data set. Once you have done this, enter an "N" in the DEF-GDG field every time you generate the alert job.

Viewing alert messages

All alert messages are transmitted to the Automated Operations Network. The alert job writes the messages to the operator console. The percentage listed after "A=" refers to the actual percentage used. The percentage listed after "T=" refers to the target percentage for this threshold. A list of the messages is presented below.

Table 6. Alert messages sent to operator console

If this alert threshold is reached:	This alert message is displayed:
POOL_HEALTH_ALERT_PCT	AWB0017A DATAPLEX xxxxxxxx POOL/SG xxxxxxxx HEALTH CHECK EXCEEDED nnnnn ALLOCATIONS OF nnnnn MB IN nnn% OF POOL
POOL_UNUSED_ALERT_PCT	AWB0018A DATAPLEX xxxxxxxx POOL/SG xxxxxxxx UNUSED THRESHOLD EXCEEDED (A=nnn% T=nnn%)
POOL_UTIL_ALERT_PCT	AWB0019A DATAPLEX xxxxxxxx POOL/SG xxxxxxxx UTILIZATION THRESHOLD EXCEEDED (A=nnn% T=nnn%)
VTOC_DSCB_ALERT_PCT	AWB0020A DATAPLEX xxxxxxxx SMF/JES ID xxxxxxxx VOLUME xxxxxx FREE DSCBs EXCEEDED (A=nnn% T=nnn%)
VTOC_VIRS_ALERT_PCT	AWB0021A DATAPLEX xxxxxxxx SMF/JES ID xxxxxxxx VOLUME xxxxxx FREE VIRS EXCEEDED (A=nnn% T=nnn%)
RVA_NCL_WARNING_PCT	AWB0027A DATAPLEX xxxxxxxx RVA/SSID xxxxxxx NCL WARNING THRESHOLD EXCEEDED (A=nnn% T= nnn%)

Table 6. Alert messages sent to operator console (continued)

If this alert threshold is reached:	This alert message is displayed:
RVA_NCL_ALERT_PCT	AWB0027A DATAPLEX xxxxxxxx RVA/SSID xxxxxxx NCL ALERT THRESHOLD EXCEEDED (A=nnn% T= nnn%)
RVA_SHR	AWB0028A DATAPLEX xxxxxxxx RVA/SSID xxxxxxx DCL ALERT THRESHOLD EXCEEDED (A=nnn% T=nnn%)

Option 2

When you choose option 2, **Tape data set eligibility report parameters and exclusions**, on the Control File Maintenance menu (option S.2.7.2 from the SAW main menu), you are placed in an Edit session:

```
EDIT       AWB.LWRK0110.SKELS.RKSPLEX(AWBS315) - 01.11     Columns 00001 00072
Command ===>                                                 Scroll ===> CSR
000001 * TAPE DATA SET EXCLUSION LIST
000002 * SAMPLE FILE CREATED ON DD/MM/YY. PLEASE LOG ALL CHANGES
000003 *
000004 * UPDATED ON DD/MM/YY BY ...
000005 *
000006 *-----------------------------------------------------------------
000007 * DISK_TO_TAPE_SIZE = SIZE OF DATATASETS THAT SHOULD BE ON TAPES
000008 * DISK_TO_TAPE_AGE  = AGE  OF DATATASETS THAT SHOULD BE ON TAPES
000009 *    DISK DATASETS BIGGER OR OLDER SHOULD BE ON TAPES
000010 * (OLD IDENTIFIER 'SIZE' AND 'AGE' ARE ALSO ACCEPTED)
000011 *-----------------------------------------------------------------
000012 * TAPE_TO_DISK_SIZE = SIZE OF DATATASETS THAT SHOULD BE ON DISKS
000013 *    TAPE DATASETS SMALLER THAT THIS LIMIT SHOULD BE ON DISK
000014 *-----------------------------------------------------------------
000015 DISK_TO_TAPE_SIZE=450,   DISK_TO_TAPE_AGE=400
000016 TAPE_TO_DISK_SIZE=50
000017 DSNAME='DFHSM.'
000018 *
****** *************************** Bottom of Data ****************************
```

All of the parameters that are listed in the JCL for option 2, **Tape data set eligibility report parameters and exclusions**, are described in the table below:

Table 7. Parameters and exclusions for the tape data set report

Parameter	Description
DISK_TO_TAPE_SIZE=xxx	Type a number between 000 and 999 to indicate the size threshold in megabytes (Mb). Any data set that is above this threshold is considered to be too large to be on DASD. In this case, the dataset is included in the tape data set exception report, unless there is a DSNAME entry for the data set in this file.
DISK_TO_TAPE_AGE=yyy	Type a number between 000 and 999 to indicate the last reference age in days.
TAPE_TO_DISK_SIZE=xxx	Type a number between 000 and 999 to indicate the threshold size in megabytes (Mb). This parameter is used to identify any data set that is considered too small to be on tape. This test is done only on volumes that are not part of a multi-volume group.
DSNAME= 'dsname'	Type the name or prefix of a data set which the storage administrator is aware of, but does not want in the tape data set exception list. You can specify up to 200 exclusions by repeating the **DSNAME='dsname'** records. Any number of characters can be specified, either with or without the tick marks (''). **Note:** A prefix is any number of leading characters in a data set name.

The thresholds are used to produce the following information:

- A section titled "Data sets that should be on tape (over xxx MB and older than xxx days)" that is included in report D1, **Data Set Reports**, on the Reports menu (option 5.D1 from the SAW main menu).
- A section titled "Data sets on tape that should be on disk (tape space allocation less than xx MB)" that is included in report D1, **Data Set Reports**, on the Reports menu (option 5.D1 from the SAW main menu).
- A column in the tape section on report D2, **Volume/Pool Reports**, on the Reports menu (option 5.D2 from the SAW main menu) that gives the total number of tapes that are too small. To access the "1st Volumes," column, you must page right (F11) in the "Pool and Volume Utilization Report (Tape)" section.

Option 3

Option 3, **Multivolume data set report exclusions**, on the Control File Maintenance menu (option S.2.7.3 from the SAW main menu), is used to exclude certain data sets from the DVP Multi-Volume Data Sets report.

The Multi-volume Data Sets report informs a storage administrator about multi-volume data sets in a dataplex that are either causing problems or were created in error. However, there may be some multi-volume data sets that the storage administrator is aware of that are not required in the report. These data sets can be listed here, in option 3, for exclusion.

When you choose option 3, you are placed in an Edit session.

```
  EDIT       AWB.LWRK0110.SKELS.RKSPLEX(AWBS262) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** ***************************** Top of Data ******************************
000001 * MULTI-VOLUME DATA SET EXCLUSION LIST
000002 *
000003 * SAMPLE FILE CREATED ON DD/MM/YY. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 * DATA.SET.NAME
000008 * HLQ.SLQ.
000009 * HLQ.
000010 *
000011 * EXAMPLE:
000012 *
000013 * DFHSM.
****** **************************** Bottom of Data ****************************
```

Notice that comments and data set prefixes start in column 1, with only one prefix per line.

Note: A prefix is any number of leading characters in a data set name.

All of the parameters that are listed in the JCL for option 3, **Multivolume data set report exclusions**, are described in the table below.

Table 8. Parameters and exclusions for the multivolume data set report

Parameter	Description
Data.Set.Name	Type the name of the data set that you want to exclude from the report.
HLQ.SLQ	Type the highlevel qualifier and the SLQ for the data set that you want to exclude from the report.
HLQ	Type the highlevel qualifier for any data sets that you want to exclude from the report. For example, if you wanted to exclude all of the data sets that have a high level qualifier of "SYS", you would type "SYS.*".

To check whether your data sets were excluded, select D1, **Data Set Reports**, on the Reports menu (option 5.D1 on the SAW main menu), and page down until you locate the "Multi-volume Data Sets" section of the report. The data sets that you specified in the exclusion parameters should not be listed in the "Multi-volume Data Sets" section.

Option 4

This report is used to exclude certain data sets from the DVP Extents report, which lists the data sets that exceed the extents thresholds (VSAM and non-VSAM) in a dataplex. There may be some data sets that the storage administrator does not want to list in the report. These data sets can be listed here, in option 4, for exclusion.

When you choose option 4, **Extent threshold data set report exclusions**, on the Control File Maintenance menu (option S.2.7.4 from the SAW main menu), you are placed in an Edit session:

```
EDIT       AWB.LWRK0110.SKELS.RKSPLEX(AWBS261) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** **************************** Top of Data ******************************
000001 * MULTIPLE EXTENT DATA SET EXCLUSION LIST
000002 *
000003 * SAMPLE FILE CREATED ON DD/MM/YY. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 * DATA.SET.NAME
000008 * HLQ.SLQ.
000009 * HLQ.
000010 *
000011 * EXAMPLE:
000012 *
000013 * DFHSM.
****** *************************** Bottom of Data ***************************
```

Notice that comments and data set prefixes start in column 1, with only one prefix per line.

Note: A prefix is any number of leading characters in a data set name.

All of the parameters that are listed in the JCL for option 4, **Extent threshold data set report exclusions**, are described in the table below.

Table 9. Parameters for the extent threshold data set exclusions report

Parameter	Description
Data.Set.Name	Type the name of the data set that you want to exclude from the report.
HLQ.SLQ	Type the highlevel qualifier and the SLQ for the data set that you want to exclude from the report.

Table 9. Parameters for the extent threshold data set exclusions report (continued)

Parameter	Description
HLQ	Type the highlevel qualifier for any data sets that you want to exclude from the report. For example, if you wanted to exclude all of the data sets that have a high level qualifier of "SYS", you would type "SYS.*"

To check whether your data sets were excluded, select D1, **Data Set Reports**, on the Reports menu (option 5.D1 on the SAW main menu), and page through the report. The data sets that you listed in the exclusion parameters should not be included in the report.

Option 5

This option is used to exclude certain data sets from the DVP New Data set report. This report informs you when any data set allocations exceed the size threshold, even though the data set was created within the age threshold. However, there may be some data sets that you do not want to be listed in the report. You can use option 5 to list the data sets you want to exclude, so they do not appear in the report.

When you choose option 5, **New data set report exclusions**, on the Control File Maintenance menu (option S.2.7.5 from the SAW main menu), you are placed in an Edit session:

```
EDIT       AWB.LWRKO110.SKELS.RKSPLEX(AWBS263) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** ***************************** Top of Data ******************************
000001 * NEW DATA SET EXCLUSION LIST
000002 *
000003 * SAMPLE FILE CREATED ON 27/09/93 BY TE SMP. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 * DATA.SET.NAME
000008 * HLQ.SLQ.
000009 * HLQ.
000010 *
000011 * EXAMPLE:
000012 *
000013 * DFHSM.
****** **************************** Bottom of Data ****************************
```

Notice that comments and data set prefixes start in column 1, with only one prefix per line.

Note: A prefix is any number of leading characters in a data set name.

All of the parameters that are listed in the JCL for option 5, **New data set report exclusions**, are described in the table below.

Table 10. Parameters for the new data set exclusions report

Parameter	Description
Data.Set.Name	Type the name of the data set that you want to exclude from the report.
HLQ.SLQ	Type the highlevel qualifier and the SLQ for the data set that you want to exclude from the report.
HLQ	Type the highlevel qualifier for any data sets that you want to exclude from the report. For example, if you wanted to exclude all of the data sets that have a high level qualifier of "SYS", you would type "SYS.*" .

To check whether your data sets were excluded, select D1, **Data Set Reports**, on the Reports menu (option 5.D1 on the SAW main menu), and locate the "Data Sets Created within Last xxx Days which are Greater than xxx Mb" section of the report. The data sets that you listed in the exclusion parameters should not be included in this section.

Option 6

The parameters that you specify through option 6 determine the type of report you want SAW to process during the daily run. When you choose option 6, **DVP daily parameters**, on the Control File Maintenance menu (option S.2.7.6 from the SAW main menu), you are placed in an Edit session:

```
EDIT       AWB.LWRK0110.SKELS.RKSPLEX(AWBS259) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** ***************************** Top of Data ******************************
000001 * DVP1 CONTROL FILE
000002 *
000003 * SAMPLE FILE CREATED ON 27/09/93 BY TE SMP. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 ALLVOLREPS='Y'
000008 ALLDSREPS='Y'
000009 POOLFILE='Y'
****** **************************** Bottom of Data ****************************
```

You can use the three parameters that are listed in the JCL, or you can use additional parameters. All of the parameters are described in the table that follows.

Table 11. Parameters for the DVP daily report

Parameter	Lower Level Parameter	Description
ALLSDREPS		Enter **Y** or **N** to indicate whether you want to produce all of the following Data Set Reports: • TAPEDS • MULTEXT • NEWDS • UNREF • MULTVOL To view the Data Set Reports, select option 5, **Reporting**, on the SAW main menu, then select option **D1**.
	TAPEDS	Enter **Y** or **N** to indicate whether you want to produce a report on data sets that should be on tape. This report is included as a section in the Data Set Reports.
	MULTEXT	Enter **Y** or **N** to indicate whether you want to produce a report on data sets that are in multiple extents. This report is included as a section in the Data Set Reports.
	NEWDS	Enter **Y** or **N** to indicate whether you want to produce a report on new data sets that are over the allocation threshold. This report is included as a section in the Data Set Reports.
	UNREF	Enter **Y** or **N** to indicate whether you want to produce a report on the distribution of unreferenced data sets. This report is included as a section in the Data Set Reports.
	MULTVOL	Enter **Y** or **N** to indicate whether you want to produce a report on multi-volume data sets. This report is included as a section in the Data Set Reports.
ALLVOLREPS		Enter **Y** or **N** to indicate whether you want to produce all of the following reports: • the Pool and Volume Utilization report, which is a section in the Volume/Pool report • the VTOC Status report, which is a section in the Volume Pool report • the Exceptions report. To view the Volume/Pool Reports, select option 5, **Reporting**, on the SAW main menu, then select option **D2**. To view the Exceptions report, select option **D3**.

Table 11. Parameters for the DVP daily report (continued)

Parameter	Lower Level Parameter	Description
	POOLREP	Enter **Y** or **N** to indicate whether you want to produce: • the Pool and Volume Utilization report, which is a section in the Volume/Pool report • the Exceptions report. To view the Volume/Pool report, select option 5, **Reporting**, on the SAW main menu, then select option **D2**. To view the Exceptions report, select option **D3**.
	VTOCSTAT	Enter **Y** or **N** to indicate whether you want to produce • the VTOC Status report, which is part of the Volume/Pool report • the Exceptions report. To view the Volume/Pool reports, select option 5, **Reporting**, on the SAW main menu, then select option **D2**. To view the Exceptions report, select option **D3**.
ALLREPS		This is the highest level report that includes all of the parameters listed above: • ALLSDREPS • TAPEDS • MULTEXT • NEWDS • UNREF • MULTVOL • ALLVOLREPS • POOLREP • VTOCSTAT
POOLFILE		Enter **Y** or **N** to indicate whether you want to produce a file that contains pool utilizations suitable for processing by the database.

The default for each of these parameters is "N", so if you only specify TAPEDS=Y, then only one report on tape data sets will be generated. If conglomerates are used, a lower level flag can be used to override the higher level flag. For example, if you specify ALLDSREPS=Y and UNREF=N, the result is that all of the data set reports will be produced, except for the unreferenced data set report.

Option 7

The parameters you specify with option 7, **DVP periodic parameters**, do not produce any reports that are visible from the Reporting option on the SAW main menu (option 5). The purpose of the DVP periodic job is to provide pool utilization data to the database, which then processes the data to determine average values. When you choose option 7, **DVP periodic parameters**, on the Control File Maintenance menu, you are placed in an Edit session.

```
EDIT       AWB.LWRK0110.SKELS.RKSPLEX(AWBS260) - 21.00     Columns 00001 00072
Command ===>                                                  Scroll ===> CSR
****** ***************************** Top of Data ******************************
000001 * DVP1P CONTROL FILE
000002 *
000003 * SAMPLE FILE CREATED ON DD/MM/YY. PLEASE LOG ALL CHANGES
000004 *
000005 * UPDATED ON DD/MM/YY BY ...
000006 *
000007 POOLFILE='Y'
****** **************************** Bottom of Data ****************************
```

Table 12. Parameters for the DVP periodic JCL

Parameter	Description
POOLFILE	Type **Y** or **N** to indicate whether you want to produce a file that contains pool utilizations suitable for processing by the database. An entry of **Y** is recommended.

Option 8

With option 8, **SPA plan file**, (option S.2.7.8 from the SAW main menu), you can enter values in a control file to indicate when changes in space allocation for each application are planned to occur. This file is used by a SAW program that builds a VSAM KSDS, which in turn is used to create SPA reports.

Note: "SPA" refers to Storage Planning Aid.

When you choose option 8, the file is displayed in Edit mode. A screen similar to the one on the next page will appear.

```
MVSSPT   200202   002000   FIRST RECORD
MVSSPT   200204   003000   THIRD RECORD
MVSSPT   200203     4000   SECOND RECORD
MVSSPT   200210     5000   INSTALLATION PLANNED
SDCSA    200201   000100
SDCSA    200203   000110
SDCSA    200206   000120
SDCSA    200209   000130
SDCSA    200201   000140
```

The information on this example screen is described in the next table.

Table 13. Values for SPA planning file

Column	Description
First	The first column is the name of the application.
Second	The second column is the date in the format YYYYMM (year/month).
Third	The third column is the amount of space that is planned, in megabytes (Mb).

For example, the first line in the sample screen indicates that for application MVSSPT, starting February of 2002, 2000 Mb of space usage is planned. This plan will increase to 3000 Mb as of April, 2002, but even before this, the plan is foreseen to be 4000 Mb in March, 2002.

The lines do not need to be sorted by dates, and you do not need to enter a value for each month of the year. The program will take into account the closest date, prior to the run date for that application, and will carry forward the last Mb amount. This allows you to hold future plans in this file and revise them as necessary.

Option 9

With option 9, **SPA match process modifications**, (option S.2.7.9 from the SAW main menu), you can enter values in a file to amend the way the hierarchy file is used. This is valuable where an application is considered to be something other than a collection of high level qualifiers (HLQs). If any match process modifications are specified in this file, they are processed first, before the normal HLQ matching is attempted.

This file is used by SAW to create SPA reports that you can access through option 5, **Reporting**, on the SAW main menu.

When you choose option 9, you are placed in an Edit session. An example of the match filter is shown below.

```
*THIS TABLE MUST BE IN DESCENDING ORDER.
*DSN_____________________________________ APPL/NUM__      ACCOUNT_
SYS9                                       TEMP           XXDSKTMP
SYS1.                                      U_SYS1         XXDSKSYS
SYS0                                       TEMP           XXDSKTMP
SMPSHR.SMSTO                               SMSTO          XXDSKSMP
SMPSHR.                                    U_SMPSHR       XXDSKSMP
SMP.                                       U_SMP          XXDSKSMP
SCRIPT.                                    U_SCRIPT       XXDSKSYS
ISPF.                                      U_ISPF         XXDSKSYS
DATASETZ.NAME                              3              XXDSKZZ
```

In the example above there are three different possibilities:

1. *Match by HLQ.* This is shown in line one. For all data sets with the HLQ of "SYS9", use the TEMP application. SPA normally uses the HLQ of a data set to associate the application (and subgroup and group) with it.
2. *Match a specific DSN prefix and application.* This is shown in line four. For all data sets beginning with `SMPSHR.SMSTO`, use the application name `SMSTO` in SPA. This approach bypasses the search for an HLQ in the SPA HLQ list, and uses the application name you specify in the second column.

   Note: To produce the expected results, the hierarchy table/file must contain the related application name.

   For another example, assume that there are data sets on a system called `SSC.AWB.*.**` and `SSC.BAR*.**`. For the prefix SSC.AWB, you could specify an application name of AWB, and for the prefix SSC.BAR, an application name of BAR. In this case, you would enter:

   ```
   SSC.AWB   AWB
   SSC.BAR   BAR
   ```

   For all other `SSC.**` data sets, where no application name is specified in the second column, an HLQ of SSC will be used.
3. *Match a specific DSN prefix, using a qualifier in the DSN as the HLQ*. This is shown in the last line of the example. For all data sets beginning with `DATASET.NAME`, use a third-level qualifier (3) to make the connection with an application.

   Note: To produce the expected results, the hierarchy table/file must contain the related application and HLQ.

   As another example, if there were data sets on a system called `SSC.AWB.**` and `SSC.BAR.**`, you could specify that the second qualifier should be used. In this case, you enter:`SSC.  2`

   Now SPA will look for AWB and BAR (or any other second qualifier) in the HLQ list, and not for SSC.

Note: You must have at least one blank character between the string that you are assigning and the application or qualifier to be used.

Option 10

Use option 10, **SPA exclude data set prefix**, to list prefixes or data set names (DSNs) that you want to exclude from the DCOLLECT process. You can specify a prefix, which is the start of a DSN, and any other characters starting in column 1 and ending in column 44.

Notes:

1. The characters can be typed with or without single quotes (').
2. Type an asterisk (*) in column one to indicate that the text on that line is a comment.

When you choose option 10, **SPA exclude data set prefix**, on the Control File Maintenance menu (option S.2.7.10 from the SAW main menu), you are placed in an Edit session that displays the Data Set Exclusion List. An example of this screen is shown below.

```
* DATA SET EXCLUSION LIST
*   DSNAME    POS. 1-44
*   DASD/TAPE POS. 50-53         ( BLANK = DASD )
*
* EXAMPLE: (IF BACKUP AND MIGRATION VOLUMES ARE NOT DEDICATED TO DFHSM,
*           YOU CAN FORCE THE COLLECT OF ALL INFORMATION ON HSM-MIG1 AND
*           HSM-BACK POOLS AND EXCLUDE THE FOLLOWING DATA SETS)
*
DFHSM.HMIG.                                      DASD
DFHSM.BACK.                                      DASD
DFHSM.SMALLDS.                                   DASD
DSN.ON.TAPE.TO.EXCLUDE.                          TAPE
OTHER.DSN.                                       TAPE
*
```

In the second column, which starts in column position 50, type the word "TAPE" if the dataset is on tape, or "DASD" if the data set is on DASD. If you leave this column blank, the default is DASD.

This member is used by a SAW program to produce files for the SPA reports that you can access through option 5, **Reporting**, on the SAW main menu.

Option 11

This option allows you to modify the hierarchy file. However, there are very specific rules about placement of text in this file and the margin for error is high, which could lead to truncations when displaying the information on the SPA Hierarchy Processing screen (option S.2.7.13), as well as errors in the reports. Therefore, it is strongly recommended that you use option 13, **SPA Hierarchy Processing**, to make any changes to your hierarchy file, rather than attempting to edit this file.

When you choose option 11, **SPA Hierarchy File**, (option S.2.7.11 from the SAW main menu) you are placed in an Edit session. An example of an hierarchy file is shown below.

```
*  HIERARCHY
*IDENTIFIER OWNERS_NAME_FIELD___ COMMENTS...
SMP
 UNKN_SMP
  U_SMP
  U_SMPSHR
SPARE_G
 SPARE_SG
  SPARE
SYSTEM
 UNKN_SYST
  U_ISPF
  U_SCRIPT
  U_SYS1
TEMP_G
 TEMP_SG
  TEMP
```

If you edit this file, you must follow these rules for placement of text:

```
<---GR--->
1         1
          0
 <--SG---->
 2        1
          1
  <--AP-->   <-------APPO-------> <-------MSGC------->
  3      1   1                 3 3                 5
         0   4                 3 5                 4
```

The table below describes the placement rules diagramed in the example.

Table 14. Rules for changing the hierarchy file

Type of Text	Description
Group (GR)	The group name must start in column 1 and the maximum length is 10 characters . The group name uses Columns 1 - 10. In the example, SMP was the first group listed.
Subgroup (SG)	The subgroup name must start in column 2 and the maximum length is 10 characters. The subgroup name uses columns 2-11. In the example, UNKN_SMP was the subgroup for the SMP group.

Table 14. Rules for changing the hierarchy file (continued)

Type of Text	Description
Application name (AP)	The application name must start in column 3 and the maximum length is 8 characters. The application name uses columns 3-10. In the example, U_SMP and U_SMPSHR are the applications associated with the UNKN_SMP subgroup and the SMP group. The following columns *must* be blank in an application line: • Columns 1 and 2 • Columns 11, 12, and 13 • Column 34 • After column 54
Application owner (APPO)	The application owner must start in column 14 and the maximum length is 20 characters. The application owner uses columns 14 - 33.
Messages/Comments (MSGC)	The messages or comments must start in column 35 and the maximum length is 20 characters. A message/comment uses columns 35-54.

This member is used by a SAW program to produce a VSAM hierarchy file, which in turn is used by another program to collect all input for reports. It is also used to generate hierarchy ISPF tables.

Option 12

The file that displays with option 12 and the one in option 11 are used to generate the ISPF tables and display the SPA Hierarchy Processing panels. However, there are very specific rules about placement of text in this file and the margin for error is high, which could lead to truncations when displaying the information on the SPA Hierarchy Processing screen (option S.2.7.13), as well as errors in the reports. Therefore, it is strongly recommended that you use option 13, **SPA Hierarchy Processing**, to make any changes to your hierarchy file, rather than attempting to edit this file or the one in option 11.

When you choose option 12, **SPA HLQ List**, (option S.2.7.12 from the SAW main menu) you are placed in an Edit session. An example of a SPA HLQ list is shown below.

```
*   HLQ LIST

*HLQ____ APPL______ DESCRIPTION_________ COMMENTS___________ ACCOUNT_
```

If you edit this file, you must follow these rules for placement of text:

```
<-HLQ--> <--APP---> <------HLQO--------> <-----MSGC---------> <-ACC-->
1      8 1        1 2                 4 4                 6 6      7
          0        9 1                 0 2                 1 3      0
```

The table below describes the placement rules diagramed in the example.

Table 15. Rules for changing the SPA HLQ list

Type of Text	Description
HLQ	The highlevel qualifier (HLQ) must start in column 1 and the maximum length is 8 characters . The group name uses Columns 1 - 8.
Application (APP)	The application name must start in column 10 and the maximum length is 8 characters. The application name uses columns 10-19.
HLQ Owner (HLQO)	The HLQ owner must start in column 21 and the maximum length is 20 characters. The HLQ owner uses columns 21-40.
Messages/Comments (MSGC)	The messages or comments must start in column 42 and the maximum length is 20 characters. A message/comment uses columns 42-61.
Account ID (ACC)	The account ID must start in column 63 and the maximum length is 8 characters. An account ID uses columns 63-70.

The following columns must be blank:

- Column 9
- Columns 18, 19, 20
- Column 41
- Column 62

This member and the file in option 11 are used by a SAW program to produce a VSAM hierarchy file, which in turn is used by another program to collect all input for reports. The files for options 11 and 12 are also used to generate hierarchy ISPF tables.

Option 13

This option displays the SPA Hierarchy Processing screen, which you can use to read and update the different components of the hierarchy. It is the recommended method for making changes to the hierarchy. There is online help for this option to guide you. A brief overview of the hierarchy is presented next.

Hierarchy Basics

An hierarchy is a logical organizational grouping. It is the corner stone which allows the storage of meaningful data and ensures the generation of useful SPA reports.

The components of the hierarchy, from the lowest to the highest, are the following:

1. HLQ (lowest component). This is the highlevel qualifier of a dataset.
2. Application (first intermediate component). An application is a collection of HLQs. An HLQ may only belong to one application.
3. Subgroup (second intermediate component). A subgroup is a collection of applications. An application may only belong to one subgroup.
4. Group (highest component). A group is a collection of subgroups. A subgroup may only belong to one group.

It is most logical to start from the HLQs and gather them per application. This is easily done if the HLQ is the same as the Application code. When this is done, gather the

applications under subgroups, such as Function or Owner. Finally, gather the subgroups under groups, such as Manufacturing or Engineering.

Note: Try to do this first on a small amount of significant applications. Do not attempt to start from scratch to cover your whole environment.

Using Option 13

When you choose option 13, **SPA hierarchy and HLQ list maintenance dialog**, on the Control File Maintenance menu (option S.2.7.13 from the SAW main menu), the following screen is displayed:

```
 ---------------------------- SPA Hierarchy Processing ---- ROW 1 TO 11 OF 29

COMMAND ==> _                                          Sort => A    SCROLL => CSR

System: MVSBMVSB Local Administrative Dataplex: MEFSB

select U to update, modify,insert or add the overtyped values
       S to select all HLQ assigned to that application name
       D to delete an obsolete application name table entry

  Application  Subgroup   Group      Application Owner    Message/Comments
  Name         Name       Name      (or any text)          (First 20 chars.)
- --A------- - --S------- --G------- --O----------------- --M-----------------

_ BASEMVS___   BASE______ SYSTEM____ ____________________ ____________________

_ BUS_______   DISCIPLINE SMP/SSC___ BUSINESS MANAGEMENT_ ____________________

_ CATALOG___   STORAGE___ CPAS______ ____________________ ____________________

_ CHG/PRB___   DISCIPLINE SMP/SSC___ CHANGE & PROBLEM MAN GEMENT_______________

_ CNF_______   DISCIPLINE SMP/SSC___ CONFIGURATION MANAGE ENT_________________

_ CPAS______   CPAS______ CPAS______ ____________________ ____________________

_ DFHSM_____   STORAGE___ CPAS______ ____________________ ____________________

_ GEN_______   DISCIPLINE SMP/SSC___ GENERAL APPLICATIONS ____________________

_ IN________   DISCIPLINE SMP/SSC___ INTERNATIONAL NETWOR ____________________

_ LOGCPAS___   TSOCPAS___ CPAS______ ____________________ ____________________

_ MVSAPP____   MVS_______ CPAS______ ____________________ ____________________
```

The table below describes the columns on this screen.

Table 16. SPA Hierarchy Processing screen

Column	Description
Application Name	Type one to eight characters for the application name.
Subgroup Name	Type one to 10 characters for the subgroup name.
Group Name	Type one to 10 characters for the group name.
Application Owner	Type one to 20 characters for the name of the application's owner. If you prefer, you can use this column for any text, instead of the owner's name.
Message/Comments	Type one to 20 characters for messages or comments. This is another text column where you can type whatever you like.

There are three line commands available on the SPA Hierarchy Processing screen. They are described in the next table.

Table 17. Line commands for the SPA Hierarchy Processing screen

Line Command	Description
U	Type **U** to update an application or to create a new application. Both procedures are described below. *To update an application*, follow these steps: 1. Type **U** next to the application you want to modify. 2. Tab to the column(s) containing the information you want to change. Type over the text you want to modify, then press Enter when you are done. *To create a new application*, follow these steps: 1. Type **U** next to an application. 2. Type a new name in the "Application Name" column. 3. Tab to the other columns and type over the text to enter your new information, then press Enter. If you do not change the text in the columns, the columns will keep the existing values. **Note:** When you press Enter, SAW will create a new application code without damaging the one you overtyped. 4. A new line displays with the new application name. However, there is an asterisk (*) between the Application Name and Subgroup Name columns. This asterisk indicates that there is no HLQ connected to your new application. To connect HLQs, type **S** next to the application name and press Enter. 5. A screen appears displaying a line that has eight question marks (????????) in the HLQ Name column. Type **U** on that line and type an HLQ over the question marks . This HLQ is the one that will connect to your new application. Press Enter when you are done. **Note:** If you want to assign several HLQs to the same application, indicate the application on the first line, then type an equal sign (=) on the other lines.
S	Type **S** to select all of the HLQs assigned to an application. A screen appears that is titled "SPA HLQs Assigned to Applications", where you can use either the U (update) or D (delete) line command.

Table 17. Line commands for the SPA Hierarchy Processing screen (continued)

Line Command	Description
D	Type **D** to delete an application line, and press Enter. If HLQs are connected to the application you are trying to delete, a message displays indicating that you must delete each HLQ that is assigned to the application. To do this, follow these steps: 1. On the SPA Hierarchy Processing screen, type **S** next to the application you want to delete, and press Enter. Another screen displays with the title "SPA HLQs Assigned to Application name". 2. Type **D** next to an HLQ entry and press Enter. Repeat this to remove all HLQs associated with this application. **Note:** You can use the Locate command in the Option field to find a specific HLQ in the list. Type `L xxxxx`, where `xxxxx` is the name of highlevel qualifier you want to locate. For example, `L SYS10` will look for an HLQ of SYS10. 3. Press PF3 to return to the SPA Hierarchy Processing screen (option S.2.7.13). You can now use the D line command to delete the application.
UNKNOWN	If you type `UNKNOWN` in the command line at the top of the screen, SAW will gather in application name "UNKNOWN" all of the HLQs that are using space, but are not connected to an application name in the hierarchy file. This command is useful for enriching the hierarchy table.
RACF	If you type `RACF` in the command line at the top of the screen, SAW will gather in application name "??RACF??" all of the HLQs that are known in RACF, but are not connected to any application name in the hierarchy file.

SPA HLQs Assigned to Application: When you type **S** next to an application name on the SPA Hierarchy Processing screen, which is option S.2.7.13 from the SAW main menu, the following screen displays:

```
----------------------------- SPA HLQs Assigned to Application SP Row 1 from 2
COMMAND ==>                                          Sort => H     SCROLL => CSR


System: RSO2RSO2               Local Dataplex: RKSPLEX


select U to update, modify, insert or add the overtyped value
       D to delete the entry


  HLQ/mach Applic.    Description          Message/Comments     RACF Account
  Name     Name       (20 chars.)          (first 20 chars.)    def.
- --H----- --A------- --O----------------- --M----------------- --R- --C-----
_ ???????? SPARE_____ ____________________ ____________________
****************************** Bottom of data ********************************
```

The following fields are listed on this screen:

Table 18. SPA HLQs Assigned to Application screen

Column	Description
HLQ/mach	Type the high level qualifier of a data set (MVS).
Application Name	An application is a collection of HLQs or machines. A one- to eight-character name for the application is already displayed on this screen. You can type over it with a different name, if you need to change it.
Description	A description up to 20 characters in length may already be displayed on this screen. Type over the description if you need to change it.
Message/Comments	A message or comments up to 20 characters in length may already be displayed on this screen. Type over the message or comment if you want to change it.
RACF Defined	(Display only) This field may display any of these values: • **blank**. This HLQ is not part of a RACF table. • **U**. This HLQ is listed as a User in a RACF table. • **G**. This HLQ is listed as a Group in a RACF table. • **?**. A question mark (?) indicates that an update operation was done to this HLQ, but the RACF status is not verified.
Account	(Display only) This is the account ID from the TE SMP Data Repository.

You have two options for line commands, **U** for update and **D** for Delete. They are described in the next table.

Table 19. Line commands for the SPA HLQs Assigned to Applications screen

Line Command	Description
U	Type **U** to update an HLQ or to connect a new HLQ to an application. If an application does not have an HLQ assigned to it, follow these steps: 1. Go to the line that has eight question marks (????????) in the HLQ/Machine Name column. 2. Type **U** on that line and type an HLQ over the question marks. This HLQ will then be associated with the application listed in the Application Name field. Press Enter when you are done. To assign additional HLQs to an application, follow these steps: 1. Type **U** next to an HLQ. 2. Type a new HLQ name in the "HLQ/Mach" column. You will type this new name over the HLQ that is currently displayed in that column. 3. Tab to the other columns and type over the text to enter any new information. If you do not change the text in the columns, the columns will keep the existing values. 4. Press Enter when you are done making entries. A new line displays with the new HLQ, without damaging the line that you overtyped. **Note:** To assign several HLQs to the same application, type **U** next to each HLQ name. Include the application name on the first line, then type an equal sign (=) in the Application Name column in the second and subsequent lines. SAW will add these HLQs to the application.
D (elete)	Type**D** next to an HLQ entry that you want to delete, and press Enter.

You can use the Locate command in the Option field to find a specific HLQ in the list. Type `L xxxxx`, where `xxxxx` is the name of the highlevel qualifier you want to locate. For example, `L SYS10` will look for an HLQ of SYS10.

Connecting an HLQ to a new application: If you need to connect an HLQ to another application, follow these steps:

1. Type **U** next to an HLQ, and type the new application name in the Application Name field. Press Enter.
2. The SPA Hierarchy Processing screen displays, listing all of the existing applications. Either choose one from the list or use the **U** line command to create a new application line on this screen.

Option 14

This option is used by a SAW program to produce an exception file on catalogs. This catalog exception file is available for your review through option C1, **Catalog Exceptions**, on the Reports menu (option 5.C1 from the SAW main menu).

When you choose option 14, **Catalog parameters**, on the Control File Maintenance menu (option S.2.7.14 from the SAW main menu), you are placed in an Edit session where you can modify the parameters on the JCL that is displayed. An example of this JCL is shown below.

```
* CATALOG THRESHOLDS
*
* UPDATED ON DD/MM/YY BY ...
*
*CATALOG=7,RECORDS=25000
*
*CAT='UCAT.MEDA01',RECS=45000
*CAT='MCAT.MSBCA0',RECS=1000
```

The parameters in this JCL are described below.

Table 20. Parameters for catalog exceptions

Parameter	Description
CATALOG	Type the threshold number of extents for catalogs.
RECORDS	Type the threshold number of records per catalog.
CAT	Type a fully qualified data set name if you want a special RECS (records) threshold on the catalog.

Option 15

When you choose option 15, **ALERT processing parameters**, on the Control File Maintenance menu (option S.2.7.15 from the SAW main menu), you are placed in an Edit session. An example of the file is shown below.

```
* DVPALERT CONTROL FILE

*

* UPDATED ON DD/MM/YY BY ...

*

ALLVOLREPS='Y',POOLFILE='N'
```

There are two parameters that you can specify to indicate which reports you want to generate. These parameters are described in the table below.

Table 21. Parameters for catalog exceptions

Parameter	Description
ALLVOLREPS	Enter **Y** or **N** to indicate whether you want to produce all of the following reports: • the Pool and Volume Utilization report, which is a section in the Volume/Pool report • the VTOC Status report, which is a section in the Volume Pool report • the Exceptions report. To view the Volume/Pool Reports, select option 5, **Reporting**, on the SAW main menu, then select option **D2**. To view the Exceptions report, select option **D3**.

Table 21. Parameters for catalog exceptions (continued)

Parameter	Description
POOLFILE	Enter **Y** or **N** to indicate whether you want to produce a file that contains pool utilizations suitable for processing by the database.

Option 16

LOGSCAN is used on MVS installations that employ DFHSM to carry out daily space management, automatic backups, or automatic dumps. When you choose option 16, **DFHSM LOGSCAN SMS ADDVOL**, you are taken to an Edit session where you can specify ADDVOL statements if you use LOGSCAN in an SMS environment. An example of the JCL is shown below.

```
/* PSEUDO ARCCMDXX FOR SMS VOLUMES                                  */
/*                                                                  */
/* PLEASE LOG ALL CHANGES                                           */
/*                                                                  */
/* UPDATED ON DD/MM/YY BY ...                                       */
/*                                                                  */
/*ADDVOL SMS001 PRIMARY(AM AB NOAD)
*************************** Bottom of Data ****************************
```

You can edit this skeleton by typing ADDVOL statements in the format:

```
ADDVOL volser unit PRIMARY(args) THRESHOLD(n1,n2)
```

For example, `ADDVOL WRK001 PRIMARY(AM AB) THRESHOLD(90,70)`, tells LOGSCAN to locate volume WRK001, look for AUTOMIG (AM) log files and AUTOBACKUP (AB) log files, and check to see if the thresholds have been met. The threshold parameters, n1 and n2, refer to a percentage. For more details on how to write ADDVOL statements, refer to IBM's documentation, *DFSMShsm Storage Administration Reference,* SC35-0422-00. To access this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2S400*.

Option 17

When you choose option 17, **DFHSM LOGSCAN SMS ADDVOL suggestions**, you are taken to an Edit session where you can specify ADDVOL statements if you use LOGSCAN in an SMS environment. LOGSCAN generates suggested dummy ADDVOL statements, which can be displayed when you choose option 17.

Care should be taken to ensure that the ADDVOL statements are valid, although they are not validated by DFHSM. The parameters and thresholds should match those that are specified for the storage group in which they are defined. These are available via ISMF.

Generating Reports

Data generation is performed through two options, **System JCL** and **Dataplex JCL**. Both of these options are found on the Dataplex and System Maintenance menu (option S.2 from the SAW main menu), and are described in this section.

Generating System JCL

Use the System JCL option to collect system-related catalog information and volume information, and also to generate catalog backup jobs. The catalog backup job is necessary to determine the number of records per catalog.

To access the System JCL option, choose option 8, **System JCL**, on the Dataplex and System Maintenance menu (option S.2.8 from the SAW main menu), and press Enter. The Generate System Related JCL screen will display, as shown below.

```
 ----------------------------- Generate System Related JCL ---------------------

 COMMAND ==>

 These JCLs have to be created for each system in your Dataplex, but you
must first update the ISPF environment (INST 7) and Configure Space .

 System: RSO2RSO2               Local Dataplex: RKSPLEX


 ===> N Configure DCOLLECT spaces (Y/N)
 ===> N Update ispf profile for batch processing (Y/N)


 Select the items below as  J (J/I/P/G)                 DEF-GDG: N  (Y/N)
 _ Collect data from the system and store them in the SAI   Y RVA  (Y/N )
 S Collect system related CATALOG information
 S Collect VOLUME information via DCOLLECT       Y DASD   N TAPE   ROD
 _ Generate missing  ALIAS connector definition    TEST( _ )
 _ Delete obsolete ALIAS ent. TEST( _ )
 S Generate CATALOG backup jobs TEST( _ )
 _ Generate housekeeping jobs TEST( _ )  DAY( ? )  SG( *_______ )
 _ Generate onsite backup jobs TEST( _ )  DAY( ? )  SG( *_______ )  SEL ( ALL_ )
 _ Generate offsite backup jobs TEST( _ )  DAY( ? )  SG( *_______ )  SEL( ALL_ )
 _ Merge DFHSM log data sets LOG( ALL_____________ )        HLQ( HSMACT__ )



 The generated output will be stored in the following data set (? = default):
 DSN: AWB.LWRKO110.RUN_____________________________ MEMBER: ________
```

The message at the top of the screen indicates that you must perform some actions before you can generate system JCL. This is true for the first time you create system JCL. You must customize the space, update the ISPF profile, and customize the ISPF environment before you generate system JCL for the first time, but not for subsequent generations. All of these steps are described in “Before creating JCL” on page 55. Review this section before you continue on with generating system JCL.

Note: The "INST 7" in the message refers to option 7, **ISPF Environm.**, on the Installation and Maintenance menu, which is option S.1.7 from the SAW main menu. This option is described in “Before creating JCL” on page 55.

To generate system JCL to create reports, make the following entries on the Generate System-Related JCL screen:

1. Type **J** for "JCL" in the "Select the items below as" field.

2. Type **N** in the "DEF-GDG" field. You only need to define a generation data group (GDG) one time, which should have been done previously.
3. Type **S** to select the "Collect system related CATALOG information" option.
4. Type **S** to select the "Collect VOLUME information via DCOLLECT" option.
5. Type **S** to select the "Generate CATALOG backup jobs TEST (_)" option.
6. Type a **one- to eight-character name** in the "Member" field at the bottom of the screen to indicate where you want the generated JCL to be saved.

   Note: If you leave the DSN and Member fields blank, the JCL will be created in a partitioned sequential dataset named `HLQ.spftemp1.cntl`, where the HLQ is replaced with your user ID. This data set name is generated by ISPF using the ZTEMPF system variable, such as `ZTEMPF=USERID.SPFTEMP1.CNTL`.
7. Press Enter to generate the JCL. The JCL will appear in an Edit session for you to review and change as needed.
8. When you are satisfied with the JCL, submit it.

When the job is completed, you will have catalog information and DCOLLECT records related to one system.

Generating Dataplex-related JCL

Use the Generate JCL dataplex option to collect information about DFHSM migration, backup, and capacity, and to merge all of the information collected by DCOLLECT. In addition, you can create Data set, Volume, and Pool (DVP) reports and Storage Planning Aid (SPA) reports by making the appropriate selections on this screen.

To generate dataplex JCL, select option 9, **Dataplex JCL**, on the Dataplex and System Maintenance menu (option S.2.9 from the SAW main menu), and press Enter. The Generate Dataplex Related JCL screen will display.

```
----------------------------- Generate Dataplex Related JCL -------------------

COMMAND ==>

This JCL has to be executed, when all system-related jobs are finished,
 but first update ISPF environment (INST 7) and Configure Space (8.8)

System: RSO2RSO2               Local Dataplex: RKSPLEX


Select the items below as  J (J/I/P/G)                DEF-GDG: N  (Y/N)
S Collect  DFHSM migration, backup and capacity information
S Merge    All information collected via DCOLLECT
_ Create   POOL space tables ( yyyyddd )       Max.Number of items: 31_
S DVP,SPA  Daily Pool/Volume report and SPA reporting process
_ DVP,SPA  Periodic Pool/Volume report and SPA reporting process
_ LOGSCAN  Archive and Analyze DFHSM logs with LOGSCAN process
_ LIST     RACF DFP information for all user, group and data set entries
_ SAVE     Storage Administration Inventory and COMPRESS local SKELS/TABLES
_ MESSAGE  Generate information for incorrect or abended batch jobs
_ Merge    all system related CATALOG information
_ Analyze  CACHE status
_ TRANSMIT Storage Administration Inventory for remote loading
_ Except.  Send Exception Reports
_ NFTP     NFTP transmissions for SAWR and/or SARA
The generated output will be stored in the following data set (? = default):
DSN: AWB.LWRK0110.RUN_____________________________ MEMBER: ________
```

The message at the top of the screen indicates you must perform some actions before you can generate dataplex JCL. This is true for the first time you create dataplex JCL. You must customize the space, update the ISPF profile, and customize the ISPF environment before you generate system JCL for the first time, but not for subsequent generations. All of these steps are described in “Before creating JCL” on page 55. Review this section before you continue on with generating dataplex JCL.

Note: The "INST 7" in the message refers to option 7, **ISPF Environm**., on the Installation and Maintenance menu, which is option S.1.7 from the SAW main menu. This option is described in “Before creating JCL” on page 55.

To generate dataplex JCL to create reports, make the following entries on the Generate Dataplex Related JCL screen:

1. Type **J** for "JCL" in the "Select the items below as" field.
2. Type **N** in the "DEF-GDG" field. You only need to define generation data groups (GDG) one time, which should have been done previously.
3. Type **S** to select the "Collect DFHSM migration, backup, and capacity information" option.
4. Type **S** to select the "Merge all information collected via DCOLLECT" option.
5. Type **S** to select the first "DVP, SPA Daily Pool/Volume report and SPA reporting process" option.
6. Type a **one- to eight-character name** in the "Member" field at the bottom of the screen to indicate where you want the generated JCL to be saved.

   Note: If you leave the DSN and Member fields blank, the JCL will be created in a partitioned sequential dataset named `HLQ.spftemp1.cntl`, where the HLQ is replaced with your user ID and account name. This data set name is generated by ISPF using the ZTEMPF system variable, such as `ZTEMPF=USERID.SPFTEMP1.CNTL`.
7. Press Enter to generate the JCL. The JCL will appear in an Edit session for you to review and change as needed.
8. When you are satisfied with the JCL, submit it.

When the job is done, the SPA and DVP reports will be ready for you to review. You will also be able to display SPA, Catalog, and DVP exception reports.

Note: There is another option for generating periodic DVP and SPA reports, rather than daily reports, which is "DVP, SPA Periodic Pool/Volume report and SPA reporting process". This option does not produce any reports that you can display through option 5, **Reporting**, on the SAW main menu.

Viewing reports

To view reports, choose option 5, **Reporting**, on the SAW main menu. The following screen displays:

```
 ---------------------------- Reports ----------------------------------------
OPTION ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

  Specify Y or N to select print capability    : N

          Y or N to select all dataplex reports: Y


  C1 - Catalog Exceptions


Application and Storage Reports         DFHSM Reports

  S1 - Hierarchy View                     L1 - LOGSCAN Summary Report

  S2 - Application View with SG/Pool      L2 - Migrate Actions File

  S3 - SG/Pool View                       L3 - Backup Actions File

  S4 - User Report (Hierarchy View)       L4 - DFHSM Activity Log

  S5 - Exceptions

                       Pool and Volume Reports

  D1  - Data Set Reports                  D6  - Packmap

  D2  - Volume/Pool Reports               D7  - Volume List

  D3  - Exceptions

                                          D14 - ATL tape errors
```

An example of each report is described in this section so you can see the type of information contained in the report.

Note: Reports are formatted for 133-column printing. To view in a browse session, scroll right to see all of the columns.

Viewing Application and Storage Reports

SAW contains five different Application and Storage Reports, which are:

- Hierarchy View
- Application View with SG/Pool
- SG/Pool View
- User Report (HierarchyView)
- Exceptions

Each of these reports is shown below, and the sections contained in each report are listed for your information.

Legend for Application and Storage Reports

The legend that explains the columns in the Application and Storage reports is located at the end of each report. It is reproduced here for better understanding of the examples, which are truncated report samples, and to provide more details than are provided in the generated reports.

Table 22. Legend for all of the Application and Storage reports

Column	Description
Title	This is the report title that is supplied in the SYSIN stream.
Report Type	This is the report type that is supplied in the SYSIN stream. Possible report types are: • Type 1 is a logical data ownership view. • Type 2 is a logical application-to-pool view. • Type 3 is a physical pool-to-application view for DASD only.
Report Detail	The report detail is supplied in the SYSIN stream.. A number from one (1) to five (5) indicates the level of detail produced, where one (1) is the least amount of detail and five (5) is the most detailed. **Note:** The possible detail levels vary by report type.
ID	This is the name of the entity on this line.
Owner-Name	From one (1) to twenty (20) characters are used for the owner's name. On DSN lines, this is the data set name.
# DSN	This number indicates how many data sets are at this level. • For report types 1 and 2, this number represents Level 0 + Level 1 + Level 2 data sets. • For report type 3, this number represents all of the DASD data sets, including backup copies.
Plan	This is the planned space at this level. The lowest level for the PLAN is APPLICATION.
Actual	This number represents that actual space, in Mb, that is reported for this level. It is the space required if no migration has occurred, which is the sum of Level 0 + ML1 + ML2, where ML1 and ML2 are reconfigured as occupancy on Level 0. This provides a stable planning figure that is almost independent of migration activity.
Used	This number is the used space, in Mb, that is reported for this level. It represents the amount of data, which is the sum of Level 0 + ML1 + ML2, where ML1 and ML2 are reconfigured as occupancy on Level 0. This provides a stable planning figure that is almost independent of migration activity.
ML1	This number represents the space used on ML1 DASD for this level. It is reported as real DASD occupancy, and not in 2K block multiples.
ML2	This number represents the space used on ML2 DASD and tape for this level.
TOTMIG	This number is the sum of ML1 and ML2.
Lev 0	This number represents the amount of space, including dedicated space, that is occupied on Level 0 DASD.
Total	This number is the sum of Level 0, ML1, and ML2. However, the number is different than the sum displayed in the "Actual" column, as the "Total" is reported in 2K block multiples.

Table 22. Legend for all of the Application and Storage reports (continued)

Column	Description
.BACK.	This number indicates the amount of space that is used on the backup DASD and tape for this level. This number is not included in the calculations used for the "Actual" and "Total" columns.
DASD	This number is the total DASD usage at this level, and includes the backup DASD (BCDS).
Tape	This is the total tape usage at this level.

Hierarchy View

To browse the Hierarchy View report, choose option S1, **Hierarchy View**, on the Reports menu (option 5.S1 from the SAW main menu), then type **S** next to the data set that you want to browse. An example of this report is provided below.

```
******************************** Top of Data ********************************

AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT DOWN TO HLQS
--------------------------------------------------------------------------------
          ID         OWNER - NAME           # DSN    PLAN     ACTUAL     ML1
--------------------------------------------------------------------------------
DATAPLEX TOTAL                              31549     300     128194    4434


AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT DOWN TO HLQS
--------------------------------------------------------------------------------
          ID         OWNER - NAME           # DSN    PLAN     ACTUAL     ML1
--------------------------------------------------------------------------------
GROUP     SMP                                 30       0         31       0
 SUBGROUP UNKN_SMP                            30       0         31       0
  APPL    U_SMPSHR                            30       0         31       0
    HLQ   SMPSHR                              30              30.86       0.00
GROUP     SYSTEM                            1029       0      21850       0
 SUBGROUP UNKN_SYST                         1029       0      21850       0
  APPL    U_SCRIPT                            14       0         26       0
    HLQ   SCRIPT                              14              25.60       0.00
  APPL    U_SYS1                            1015       0      21824       0
    HLQ   SYS1                              1015          21824.08       0.00
GROUP     TEMP_G                              81     300        143       0
 SUBGROUP TEMP_SG                             81     300        143       0
  APPL    TEMP                                81     300        143       0
    HLQ   SYS00006                             4               3.40       0.00
    HLQ   SYS00007                             4               3.40       0.00
    HLQ   SYS02050                            10               8.49       0.00
    HLQ   SYS02065                            59             124.78       0.00
    HLQ   SYS99347                             4               3.40       0.00
GROUP     UNKNOWN    UNKNOWN                30409       0     106170    4434
 SUBGROUP UNKNOWN    UNKNOWN                30409       0     106170    4434
  APPL    UNKNOWN    UNKNOWN                30409       0     106170    4434
    HLQ   ADB210     UNKNOWN                   14              31.44       0.00
    HLQ   ADB610     UNKNOWN                    0               0.00       0.00
    HLQ   AJV        UNKNOWN                    9            1002.61       0.00
    HLQ   AJV118     UNKNOWN                    5              65.84       0.00
    HLQ   ALA        UNKNOWN                 1556            1732.19       0.00
```

Application View with SG/Pool

The Application View with SG/Pool report contains information about DASD storage, with a pool breakdown for applications. To view this report, choose option S2, **Application View with SG/Pool**, on the Reports menu (option 5.S2 from the SAW main menu), then enter **S** next to the data set you want to browse. An example of this report is shown below:

```
******************************** Top of Data ********************************

AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT WITH POOL BREAKDOWN FOR APPLICATIONS
--------------------------------------------------------------------------------
                                  ---------------- DASD and HSM TAPE -----------
            ID        DEVICE     # DSN     PLAN      ACTUAL    DASD    HSM TAPE
--------------------------------------------------------------------------------
DATAPLEX TOTAL                   31549      300  128194      127310           0


AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT WITH POOL BREAKDOWN FOR APPLICATIONS
--------------------------------------------------------------------------------
                                  ---------------- DASD and HSM TAPE -----------
            ID        DEVICE     # DSN     PLAN      ACTUAL    DASD    HSM TAPE
--------------------------------------------------------------------------------
APPL        TEMP                    81      300     143         143           0
 APPLPOOL   UNKNOWN                 81             143.46      143.46        0.
  POOL      #UNKNOWN  3390-3        12              10.19       10.19        0.
  POOL      SGTEMP    3390-3        69             133.27      133.27        0.
  POOL      SGTEMP    3390-3        69             133.27      133.27        0.
APPL        U_SCRIPT                14        0     26          26           0
 APPLPOOL   UNKNOWN                 14              25.60       25.60        0.
  POOL      #UNKNOWN  3390-3        14              25.60       25.60        0.
APPL        U_SMPSHR                30        0     31          31           0
 APPLPOOL   UNKNOWN                 30              30.86       30.86        0.
  POOL      SGDEV     3390-3        27              23.22       23.22        0.
  POOL      SGSG1     3390-3         3               7.65        7.65        0.
APPL        U_SYS1                1015        0   21824       21824          0
 APPLPOOL   UNKNOWN               1015            21824.08    21824.08       0.
  POOL      #UNKNOWN  3390-3       936            21758.76    21758.76       0.
  POOL      CART-BKP  UNKNOWN        0                0.00        0.00       0.
  POOL      DEFAULT   3390-3         2               2.55        2.55        0.
  POOL      HSM-MIG1  3390-3         2               1.70        1.70        0.
  POOL      SGDB2     3390-3        10              11.04       11.04        0.
  POOL      SGDB2TMP  3390-3         4               2.83        2.83        0.
  POOL      SGDEV     3390-3        10               7.08        7.08        0.
  POOL      SGDEVBKP  3390-3         6               4.81        4.81        0.
  POOL      SGDUMP    3390-3         6               4.25        4.25        0.
  POOL      SGHFS     3390-3         4               2.83        2.83        0.
```

One additional column, **Device**, appears on this report. This column refers to the logical device. In the case of a duplex-pair DASD volume, the logical device is followed by a "D".

SG/Pool View

To view information about DASD storage by application pool and pool, select option S3, **SG/Pool View**, on the Reports menu (option 5.S3 from the SAW main menu), then type **S** next to the data set you want to browse. An example of a SG/Pool View report is shown below.

```
******************************** Top of Data ********************************

AWBD29P              SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT BY APPLICATION POOL AND POOL
--------------------------------------------------------------------------------
                                          ---- DASD ----              -------
            ID         OWNER - NAME       # DSN     DASD              # DSN
--------------------------------------------------------------------------------
DATAPLEX TOTAL                            31549   127310                  0


AWBD29P              SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   DASD STORAGE REPORT BY APPLICATION POOL AND POOL
--------------------------------------------------------------------------------
                                          ---- DASD ----              -------
            ID         OWNER - NAME       # DSN     DASD              # DSN
--------------------------------------------------------------------------------
APPLPOOL    UNKNOWN                       31549   127310                  0
    POOL    #UNKNOWN                       6089    44601                  0
     APPL   TEMP                             12       10.00              0
      HLQ   SYS00006                          4        3.00              0
      HLQ   SYS00007                          4        3.00              0
      HLQ   SYS99347                          4        3.00              0
     APPL   U_SCRIPT                         14       26.00              0
      HLQ   SCRIPT                           14       26.00              0
     APPL   U_SYS1                          936    21759.00              0
      HLQ   SYS1                            936    21759.00              0
     APPL   UNKNOWN    UNKNOWN             5127    22807.00              0
      HLQ   ADB210     UNKNOWN               13       18.00              0
      HLQ   AJV        UNKNOWN                3       93.00              0
      HLQ   AJV118     UNKNOWN                5       66.00              0
      HLQ   ANL        UNKNOWN               18       12.00              0
      HLQ   AOP        UNKNOWN               14       59.00              0
      HLQ   ASM        UNKNOWN               22       63.00              0
      HLQ   ASU        UNKNOWN               30        5.00              0
      HLQ   ASUITE     UNKNOWN                1        2.00              0
      HLQ   AWBSERV    UNKNOWN                1        0.00              0
      HLQ   AWBSTC     UNKNOWN                1        0.00              0
      HLQ   BBO302     UNKNOWN               21       56.00              0
      HLQ   BFS        UNKNOWN               54       46.00              0
      HLQ   BFT610     UNKNOWN               20        3.00              0
```

User Report

To view information about the use of DASD storage by users and highlevel qualifiers (HLQs), select option S4, **User Report (Hierarchy View)**, on the Reports menu (option 5.S4 from the SAW main menu). Type **S** next to the data set that you want to browse. An example of a User Report is shown in the next screen.

```
******************************** Top of Data *********************************

AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   USER DASD STORAGE REPORT DOWN TO HLQS
--------------------------------------------------------------------------------
                                            ------------  DASD -----------------
          ID         OWNER - NAME           # DSN    PLAN     ACTU       USED
--------------------------------------------------------------------------------
DATAPLEX TOTAL                             31549     300     128194    92190.38


AWBD29P               SPACE USAGE REPORT IN MEGABYTES FOR DATAPLEX : RKSPLEX  RU
TITLE:   USER DASD STORAGE REPORT DOWN TO HLQS
--------------------------------------------------------------------------------
                                            ------------  DASD -----------------
          ID         OWNER - NAME           # DSN    PLAN     ACTU       USED
--------------------------------------------------------------------------------
GROUP     SMP                                30       0         31       20.50
 SUBGROUP UNKN_SMP                           30       0         31       20.50
  APPL    U_SMPSHR                           30       0         31       20.50
    HLQ   SMPSHR                             30              30.86       20.50
GROUP     SYSTEM                           1029       0      21850    11603.84
 SUBGROUP UNKN_SYST                        1029       0      21850    11603.84
  APPL    U_SCRIPT                           14       0         26       23.67
    HLQ   SCRIPT                             14              25.60       23.67
  APPL    U_SYS1                           1015       0      21824    11580.17
    HLQ   SYS1                             1015           21824.08    11580.17
GROUP     TEMP_G                             81     300        143       13.93
 SUBGROUP TEMP_SG                            81     300        143       13.93
  APPL    TEMP                               81     300        143       13.93
    HLQ   SYS00006                            4               3.40        0.00
    HLQ   SYS00007                            4               3.40        0.00
    HLQ   SYS02050                           10               8.49        0.05
    HLQ   SYS02065                           59             124.78       13.87
    HLQ   SYS99347                            4               3.40        0.00
```

Exceptions

The last of the Application and Storage reports is the Exceptions report. To view this report, select option S5, **Exceptions**, on the Reports menu (option 5.S5 from the SAW main menu), and type **S** next to the data set you want to browse. An example of this report is shown below.

```
******************************** Top of Data ********************************
AWBD27P   DATAPLEX: RKSPLEX    RUN Date 06/03/02   RUN Time 20/38/02/601


     SPA EXCEPTION REPORT


No Prefixes made a sudden jump
Where a sudden jump >     100 Mb and jump >  50% OF PREVIOUS


The following applications are out of Line:
Where a PLANWARNING_PCT =   90 and LOWACTUAL_PCT =    5.


  Application       Plan      Actual   Above   Approaching      Low
                (Mbytes)    (Mbytes)    Plan          Plan   Actual
  ------------------------------------------------------------------
  UNKNOWN              0      106170       X
  U_SYS1               0       21824       X
  U_SMPSHR             0          30       X
  U_SCRIPT             0          25       X
****************************** Bottom of Data ******************************
```

Viewing Pool and Volume Reports

SAW contains five different Pool and Volume reports, which are:

- Data set
- Volume/Pool
- Exceptions
- Packmap
- Volume list

Each of these reports is described in this section.

Data Set Reports

Use Option D1, **Data Set Reports**, on the Reports menu (option 5.D1 from the SAW main menu) to view up to six different sections describing the status of data sets. These sections are described in the next table.

Table 23. Sub-reports in the Data Set report

Section Title	Description
Data sets created within last xxx days which are greater than 450 Mb	This section shows: • *Data set name.* List of DSNs above the indicated thresholds. • *Alloc MB.* Megabytes per DSN. • *Create date.* Date when the DSN was created.
Data sets that should be on tape (over xxx Mb and older than xxx days)	This section shows: • *Data set name.* List of DSNs that match the criteria. • *Alloc MB*. Megabytes per DSN. • *Ref Date.* Last time the file was referenced.
Data sets that should be on disk (tape space allocation less than xxx MB)	This section shows: • *Data set name.* List of DSNs that match the criteria. • *Dataset Alloc MB*. Megabytes per dataset. • *Volume Alloc MB.* Megabytes per volume. **Note:** For fields that list Mb data, a value of zero (0) means that the data set uses less than a megabyte. It does not mean that the data set is empty. • *Volume.* Name of the volume. • *Unit type and model.* ID of the unit type and name of model. • *Location ID.* Reported by a tape management system. • *ATL Library*. ATL name that is assigned by SMSTAPE • *ATL Location.* Location of ATL that is assigned by the SMSTAPE
Distribution of unreferenced data sets	This section shows: • *Age range.* List of different age ranges. • *Data sets.* Number of data sets per range. • *Alloc MB.* Total number of megabytes per range.
Data sets that are over threshold extents (VSAM=xxx and Non-VSAM=xxx)	This section show: • *Data set name.* List of DSNs that are above the criteria. • *VOLSER.* The volume serial where the DSN resides. • *Ext.* Number of extents. • *DSORG.* Organization of data sets.
Multi-Volume Data Sets	This section shows: • *Data set name.* List of DSNs that match the criteria. • *VOLSER.* A list of volume serial names. • *Seq. No. Sequence number.* Seq. No. Volumes are listed by sequence number. • *Alloc MB.* Number of megabytes per volume.

An example of a Data Set report is shown below.

```
******************************** Top of Data ********************************
AWBD22P                    DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:18
AWBD22P     DSREPS  REPORT
    DATA SETS CREATED WITHIN LAST   4 DAYS WHICH ARE GREATER THAN  450 MB
    ========================================================================
     DATA SET NAME                                    ALLOC MB    CREATE DATE
     ============================================     ========    ===========
     NO DATA SETS MATCH THIS CRITERIA


AWBD22P                    DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:19
AWBD22P     DSREPS  REPORT
    DATA SETS ON DISK THAT SHOULD BE ON TAPE (OVER  450 MB AND OLDER THAN  400 D
    ================================================================================
     DATA SET NAME                                    ALLOC MB      REF DATE
     ============================================     ========      ========
     SYS1.LOCAL1.PAGE.DATA                              1699         2001011
     HFS.OS390R.SMPE.MVST100.SMPLTS                      932         2001016
     SYS1.RS11.LOCAL.PAGE.DATA                           849         2000258
     SYS1.LOCAL2.PAGE.DATA                               849         2000117
```

More of the Data Set report is shown below:

```
AWBD22P                   DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:20

AWBD22P     DSREPS  REPORT


    DATA SETS ON TAPE THAT SHOULD BE ON DISK (TAPE SPACE ALLOCATION LESS THAN

    ============================================================================


                                                        DATA SET      VOLUME

     DATA SET NAME                                      ALLOC MB    ALLOC MB    VO

     ==========================================     ========    ========    ==

     NO DATA SETS MATCH THIS CRITERIA


AWBD22P                   DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:20

AWBD22P     DSREPS  REPORT

                  DISTRIBUTION OF UNREFERENCED DATA SETS

                  ======================================

               AGE RANGE                DATA SETS           ALLOC MB

          ===================           =========          ========

             0 TO   10 DAYS:                 9269              52899

            11 TO   30 DAYS:                 5932              14123
            31 TO  100 DAYS:                 5047              13688

           101 TO  400 DAYS:                 5786              18704

           401 TO  740 DAYS:                 2251              12459

           741 TO 9999 DAYS:                 2053               7116

           NO LAST REF DATE:                 1091               3869
```

More of the Data Set report is shown below:

```
AWBD22P                   DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:21

AWBD22P     DSREPS  REPORT

     DATA SETS THAT ARE OVER THRESHOLD EXTENTS (VSAM=  60 AND NON-VSAM=  7)

      ======================================================================

       DATA SET NAME                                      VOLSER    EXT    DSORG

       ==========================================         ======    ===    =====

       DS1G.DSNDBD.CSPERKD2.CSPERKS8.I0001.A001           DB2111    123    VS

       DS1G.DSNDBD.GCSFENN.TSGGC4.I0001.A001              DB2111    123    VS

       HFS.USERS                                          OS39HA    123    PO-E

       PDMIKE.DDIROLD.D                                   TSO001    123    VS

       R61A.DSNDBD.DBEDB1.DBETS1.I0001.A001               DB2002    123    VS

       R61A.DSNDBD.DSNDB04.MEN.I0001.A001                 DB2001    123    VS

       R61A.DSNDBD.DSNDB04.MEN.I0001.A001                 DB2004    123    VS

       R61A.DSNDBD.DSNDB04.PIZZA.I0001.A001               DB2001    123    VS

       PDMIKE.DDIR.D                                      TSO003     92    VS

       R61A.DSNDBD.DSNDB06.DSNKSX01.I0001.A001            DB2001     86    VS

       PDJOHN.DDIR.D                                      TSO002     81    VS

       R61A.DSNDBD.RDBIDB2.RDBITSDF.I0001.A001            DB2001     75    VS

       HFS.RS11.TMP                                       OS39HA     73    PO-E

       R71A.DSNDBD.JKDB1.JKTS1.I0001.A001                 DB2005     65    VS
```

The last section of the Data Set report is shown next.

```
AWBD22P                   DATAPLEX:RKSPLEX     DATE:06/03/2002    TIME:20:37:21

AWBD22P     DSREPS  REPORT

                     MULTI-VOLUME DATA SETS

                     =====================

   DATA SET NAME                                VOLSER  SEQ. NO.   ALLOC MB

   ========================================   ======  ========   ========

   RSPMR.CUNA.D01353.UNTRS                      PMR022       1         234

                                                PMR020       2         260

   RSPMR.D020056.P76630.SYSLOGU                 PMR021       1          23

                                                PMR022       2           5

   RSPMR.D2058.P09767.UABENDU                   PMR022       1         262

                                                PMR021       2          37

   RSPMR.PM09767.SVCDMP03.UNTRS                 PMR021       1         390

                                                PMR020       2         233

   RSPMR.QMP0C4.BPDUMP.UNTRS                    PMR020       1        1392

                                                PMR021       2         215

   R61A.DSNDBD.DBEDB1.DBETS1.I0001.A001         DB2002       1           6

                                                DB2005       2           3

   R61A.DSNDBD.DSNDB04.MEN.I0001.A001           DB2001       1           6

                                                DB2004       2           6
```

Volume/Pool Reports

Use Option D2, **Volume/Pool Reports**, on the Reports menu (option 5.D2 from the SAW main menu) to view two different sections describing the utilization of DASD and tape by pools and volumes, and the status of VTOCs. These sections are described in the table below the screen.

Note: An asterisk (*) on the left of the report indicates there is an exception issued against the volume.

An example of a Volume/Pool report is shown on the next page.

```
 ------------------------------------------------------------------------------
 BROWSE    AWB.AWB014F.MYDPLEX.G0022V00              Line 00000000 Col 001 080
 Command ===>                                           Scroll ===> CSR
******************************** Top of Data ********************************
AWBD22P                    DATAPLEX:MYDPLEX     DATE:18/04/2002    TIME:17:55:00
AWBD22P     VOLREPS REPORT
                                  POOL AND VOLUME UTILIZATION REPORT (DASD)
                                  ========================================
                                                    PHYSICAL PDF       PHYS. COMP. F
 POOL/VOL CAPACITY  TARGET   ALLOC  UNUSED FREE DEVTYPE  ABBR.     USED  RATIO
 ======== ======== ======= ======= ======= ==== ======== ======== ====== ======

*SGDB2       11352    9649   10271    3471   9% THRESHOLD EXCEEDED: UNUSED SPACE
   DB2001     2838    2838    2716    1015   4% 3390 003 PDF001
   DB2002     2838    2838    2425     838  14% 3390 003 PDF001
   DB2003     2838    2838    2510    1027  11% 3390 003 PDF001
   DB2004     2838    2838    2619     590   7% 3390 003 PDF001

*SGDEVBKP     8514    7236    7858     370   7% THRESHOLD EXCEEDED: USED SPACE.
   DBK020     2838    2838    2731     117   3% 3390 003 PDF001
   DBK021     2838    2838    2641     113   6% 3390 003 PDF001
   DBK022     2838    2838    2486     139  12% 3390 003 PDF001
```

Table 24. Sub-reports in the Volume/Pool report

Section Title	Description
Pool and Volume Utilization Report (DASD)	This report shows: • *Pool/Vol.* Pool identifier or volume serial. • *Capacity*. Pool/volume capacity in megabytes (Mb). • *Target*. Pool/volume target utilization in Mb. • *Alloc*. Pool/volume actual utilization in Mb. • *Unused.* Pool/volume unused (over allocated) space in Mb, difference between "allocated" and "used" space. • *Free*. The percent of pool/volume free space. • *Physical Devtypes*. Refers to a real disk used by the Ramac Virtual Array (RVA). The user is unaware of it. • *PDF Abbr*. This is identical to the PDF abbreviation defined in the Hardware Configuration Manager (HCM). It contains the abbreviation ID of one of HCM's physical description templates, such as *RVA1*. • *Phys. Used.* The amount of physical used space. • *Comp Ratio*. This is the result of dividing the used space, as seen by the user, by the physical space needed to contain it. • *Additional Information*. The status of the pool free space health or volume fragmentation index and the 20 largest free extents in Mb.

Table 24. Sub-reports in the Volume/Pool report (continued)

Section Title	Description
Pool and Volume Utilization Report (Tape)	This report shows: • *S*. An "S" indicates that this is a "scratch" pool. • *Pool*. Name of the pool. • *Capacity.* Pool capacity in Mb. • *Allocated*. Pool utilization in Mb. • *%.* Allocation percentage (alloc/capacity). • *Tape Cap.ty.* Capacity of a volume in the pool. • *Tapes Num*. Number of volumes in the pool. • *Physical Devtypes*. Refers to a real disk used by the Ramac Virtual Array (RVA). The user is unaware of it. • *PDF Abbr*. This is identical to the PDF abbreviation defined in the Hardware Configuration Manager (HCM). It contains the abbreviation ID of one of HCM's physical description templates, such as *RVA1*. • *1st Volumes*. The first volume of a multi-volume group. — **Avg Alloc**. Average allocation of first volumes. — **<...MB**. Number of volumes that use less than xxx megabytes. The threshold is specified through option S.2.7.2, **Tape Data Set report Parameters and Exclusions**. • *Full Volumes.* Volumes in which the last file continues onto another volume. — **Avg Alloc.** Average allocation. — **Num**. Number of full volumes. — **%TOT**. Percentage of full volumes over all volumes. The higher this value, the more it is convenient to migrate to a larger device.

Table 24. Sub-reports in the Volume/Pool report (continued)

Section Title	Description
VTOC Status Report	This section shows: • *Volume.* Volume serial. • *SystemID.* System ID where the volume is identified. • *Free DSCBs.* Target number and actual number. • *Free VIRS*. Target number and actual number. • *VTOCIX Status*. — **Expected**. Allocation flag (Y/N) from DCOLLECT. — **Actual**. Actual status (Y/N). • *SMS Status* — **Expected**. SMS flag (S/N) from DCOLLECT. S = SMS, N = non-SMS. — **Actual**. Flag (S/N/C) from DCOLLECT. S = SMS, N = non-SMS, C = in conversion. • *Allocated Space*. — **'V' MB**. The amount of allocated space in megabytes (MB) in the 'V' volume record from DCOLLECT. — **Sum 'D' MB**. DCOLLECT produces each 'D' data set record for the volume. The SUM 'D' MB represents the sum of all allocated space, in megabytes, of each 'D' data set record.

Exception Reports

To view the Exceptions report, select option D3, **Exceptions**, on the Reports menu (option 5.D3 on the SAW main menu), and type **S** next to the data set you want to browse. The Exceptions report contains two sections:

- Exception Report at the top, which lists DVP exceptions
- Summary Report at the end.

An example of an Exceptions report is shown on the next page.

```
AWBD22P                DATAPLEX: MEFSB DATE: 05/11/2002 TIME: 12:42:02

AWBD22P  EXCEPTION REPORT

POOL/SG CACAO    UNUSED THRESHOLD EXCEEDED (A= 20% T= 15%)

POOL/SG OMVS     UTILIZATION THRESHOLD EXCEEDED (A= 96% T= 85%)

POOL/SG OTHER    UNUSED THRESHOLD EXCEEDED (A= 27% T= 15%)

VOLUME MSBPPA FREE VIRS EXCEEDED (A=0% T= 15%)

END OF EXCEPT REPORT


1AWBE400   SUMMARY REPORT

 DATAPLEX |CAPACITY|  ALLOC | A/C | NUM_DS | ALIAS | TAPES | RVA | ATL | VTS | DESCRIPTION
----------------------------------------------------------------------------------------
-
 MEFSB    |      83 |     59 |  71 |   40835|   451 |     0 |   1 |   0 |   0 | TE SMP MVS
          |         |        |     |        |       |       |     |     |     | Long Text
          |         |        |     |        |       |       |     |     |     |  Long Text
          |         |        |     |        |       |       |     |     |     |  Long Text
 MEFSL    |      37 |     21 |  57 |    8738|   193 |     0 |   1 |   3 |   1 | TE SMP MVS
          |         |        |     |        |       |       |     |     |     |   "F" line
          |         |        |     |        |       |       |     |     |     |   on S.2.1

AWBE400    END OF SUMMARY REPORT
```

Some of the features of this report are described in the next table.

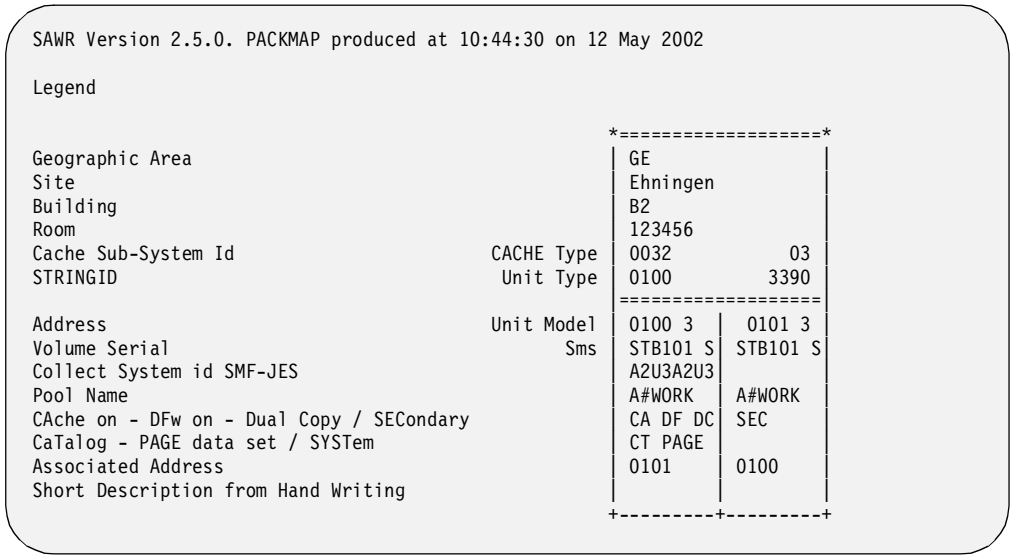
Table 25. Features of the Exceptions report

Feature	Description
A= xxx%	At the top of the Exception Report, the percentage listed after "A=" refers to the actual percentage used. This amount is what triggered the exception message, such as "Unused Threshold Exceeded."
T=xxx%	At the top of the Exception Report, the percentage listed after "T=" refers to the target percentage for this threshold.
Capacity and Alloc	In the Summary Report, the number listed under "Capacity" and "Alloc" headings refers to gigabytes (GBs), not megabytes (MBs).
Description	In the Summary Report, the "Description" column contains a short description in the first line related to a dataplex. However, you can create additional lines by using the "F" line command on the Dataplex Management screen, which is option S.2.1 from the SAW main menu. A screen displays several lines for you to type free text for the dataplex description. **Note:** The "Description column" shown in the example is much shorter than what is actually displayed on the screen.

Packmap

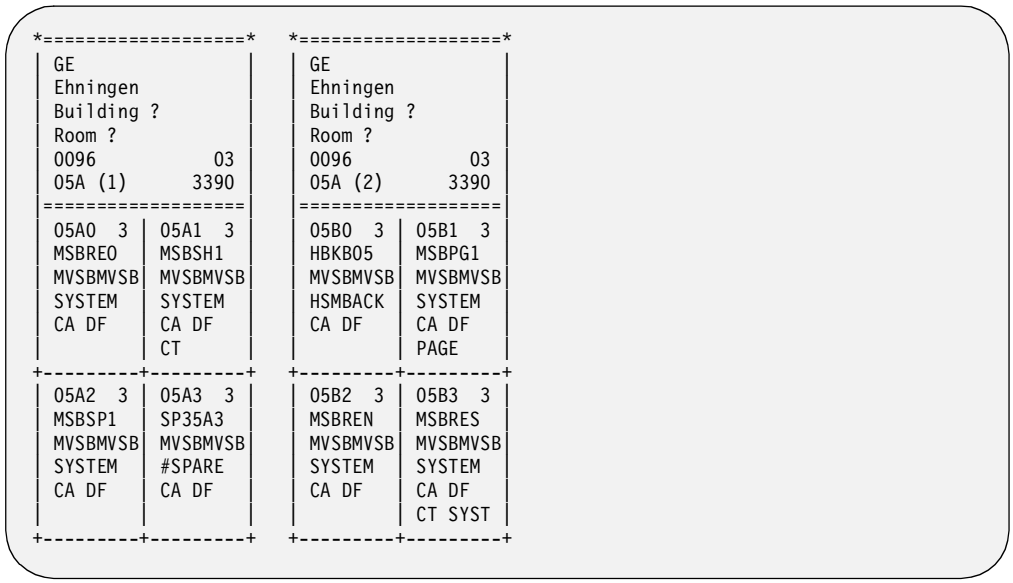
If you select option 3, **String**, on the DASD Management menu (option 1.3 on the SAW main menu), you can generate a "packmap" diagram. To do this, type **PACKMAP** at the Command prompt on the String Assignment screen, and press Enter. The packmap program will start. When it has completed successfully, you will be placed in a "Browse" session that displays the report.

You can view this same diagram by selecting option D6, **Packmap**, on the Reports menu (option 5.D6 from the SAW main menu). An example of a Packmap report is shown in the next few screens. The first screen shows the legend that explains how to read the Packmap diagram.



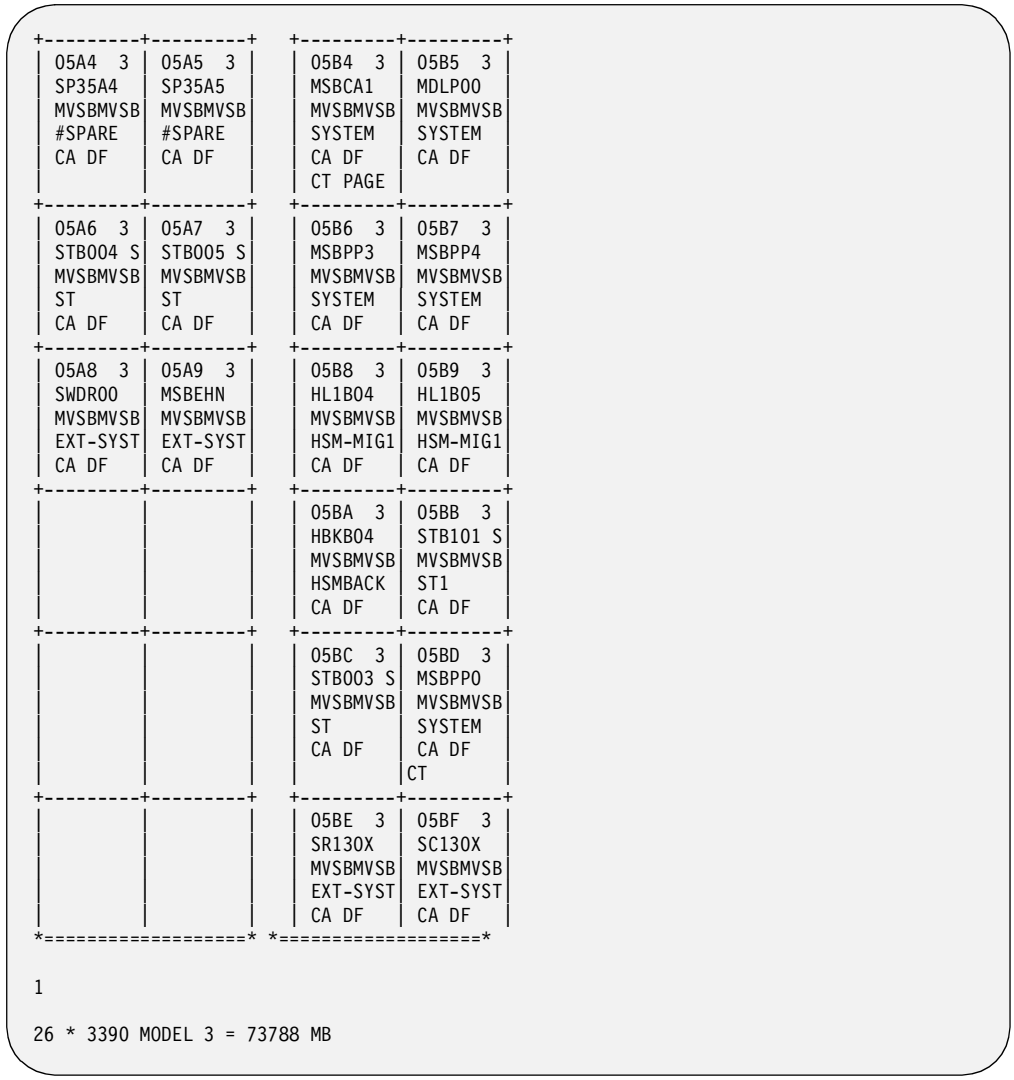
```
SAWR Version 2.5.0. PACKMAP produced at 10:44:30 on 12 May 2002

Legend

                                                        *==================*
Geographic Area                                         | GE               |
Site                                                    | Ehningen         |
Building                                                | B2               |
Room                                                    | 123456           |
Cache Sub-System Id                          CACHE Type | 0032          03 |
STRINGID                                      Unit Type | 0100        3390 |
                                                        |==================|
Address                                      Unit Model | 0100 3   |  0101 3  |
Volume Serial                                       Sms | STB101 S | STB101 S|
Collect System id SMF-JES                               | A2U3A2U3 |          |
Pool Name                                               | A#WORK   | A#WORK   |
CAche on - DFw on - Dual Copy / SECondary               | CA DF DC | SEC      |
CaTalog - PAGE data set / SYSTem                        | CT PAGE  |          |
Associated Address                                      | 0101     | 0100     |
Short Description from Hand Writing                     |          |          |
                                                        +----------+----------+
```

The Packmap diagram starts below the Legend information. The Legend is shown in the previous screen example. The first page of the diagram is shown in the next example.



```
*==================*   *==================*
| GE               |   | GE               |
| Ehningen         |   | Ehningen         |
| Building ?       |   | Building ?       |
| Room ?           |   | Room ?           |
| 0096          03 |   | 0096          03 |
| 05A (1)     3390 |   | 05A (2)     3390 |
|==================|   |==================|
| 05A0  3  | 05A1  3  |   | 05B0  3  | 05B1  3  |
| MSBREO   | MSBSH1   |   | HBKBO5   | MSBPG1   |
| MVSBMVSB | MVSBMVSB |   | MVSBMVSB | MVSBMVSB |
| SYSTEM   | SYSTEM   |   | HSMBACK  | SYSTEM   |
| CA DF    | CA DF    |   | CA DF    | CA DF    |
|          | CT       |   |          | PAGE     |
+----------+----------+   +----------+----------+
| 05A2  3  | 05A3  3  |   | 05B2  3  | 05B3  3  |
| MSBSP1   | SP35A3   |   | MSBREN   | MSBRES   |
| MVSBMVSB | MVSBMVSB |   | MVSBMVSB | MVSBMVSB |
| SYSTEM   | #SPARE   |   | SYSTEM   | SYSTEM   |
| CA DF    | CA DF    |   | CA DF    | CA DF    |
|          |          |   |          | CT SYST  |
+----------+----------+   +----------+----------+
```

The next example shows more of this Packmap report.



A string is drawn to include up to 16 volumes. However, since a 3390 can accommodate up to 32 volumes, two strings are used. A "string ID" covers a maximum of 32 separate 3390 volumes.

ListVol

If you select option 3, **String**, on the DASD Management menu (option 1.3 on the SAW main menu), you can generate a "ListVol" report. To do this, type **LISTVOL** at the Command prompt on the String Assignment screen, and press Enter. The Listvol program will run. When it has completed successfully, you will be placed in a "Browse" session that displays the report.

You can view this ListVol report by selecting option D7, **ListVol**, on the Reports menu (option 5.D7 from the SAW main menu). An example of a ListVol report is shown in the next screen.

```
SAW Version 1.1.0. LISTVOL produced at 04:24:11 on 15 May 2002

------------------------------------------------------------------------
        VOLSER  POOLNAME UCB  UNIT-TYPE MODEL
------------------------------------------------------------------------
        MSBSY0  SYSTEM   05A0   3390      3
        MSBSH1  SYSTEM   05A1   3390      3
        MSBSP1  SYSTEM   05A2   3390      3
        STB001  ST       05A3   3390      3
        STPF01  STPF     05A4   3390      3
        MSBPPA  SYSTEM   05A5   3390      3
        STB004  ST       05A6   3390      3
        STB005  ST       05A7   3390      3
        MSBSY1  SYSTEM   05A8   3390      3
        OMVS00  OMVS     05A9   3390      3
        HBKB05  HSMBACK  05B0   3390      3
        MSBPG1  HSM-MIG1 05B1   3390      3
```

Viewing DFHSM Reports

SAW contains four different Data Facility Hierarchical Storage Manager (DFHSM) reports regarding DASD, which are:

- LOGSCAN Summary Report
- Migrate Actions File
- Backup Actions File
- DFHSM Activity Log.

Each of these reports is described in this section. However, because the first three reports relate to the LOGSCAN utility, the next section provides an overview of LOGSCAN.

Using LOGSCAN

DFHSM assists in space management of direct access storage devices (DASD). It maintains data sets by ensuring that all data is efficiently stored. In addition, DFHSM is used to facilitate backups, either incremental or full volume dumps, to ensure the integrity and availability of the data.

When carrying out daily space management, automatic backups, and automatic dumps, DFHSM writes to activity logs (a SYSLOG), recording information about its actions. The activity logs can be extensive, especially in a large installation, making it difficult for a storage administrator to identify any failures. It is common for errors to be missed, and small errors can eventually contribute to major problems some days or weeks later.

For example, let us assume that a backup fails, but goes unnoticed. If a recovery is needed at a later date, and the backup failure is discovered at that point, data may have to be rolled back to the last successful backup, perhaps several weeks old.

LOGSCAN summarizes the activity logs that have been produced by DFHSM during daily space management, automatic backup, and automatic dump functions. It provides a quick guide to any problems, which can then be further investigated, and also provides a positive acknowledgement that certain functions were performed. By executing LOGSCAN periodically, you can clearly see that certain functions were performed, and also when errors occurred.

LOGSCAN processes these types of DFHSM activity logs:

- migration activity
- backup activity
- dump activity.

Note: Command and ABARS activity logs are ignored.

When the LOGSCAN program is run, it does the following:

- Produces a summary report in a simplified form, instead of messages and codes. This report includes problems detected at the data set level, functions performed at the volume level, various statistics, and space/fragmentation information. It also indicates when functions were performed successfully, and contains statistics about the activities, such as time taken.

  Note: In some cases, messages and codes are considered clear enough to be copied to the report.

- Creates an action file that lists the names of the data sets that failed to be migrated.
- Creates an action file that lists the names of the data sets that failed to be backed up.
- Creates an additional statistics file, ACTLOG, to indicate the amount of time and space involved during the automatic space management and backup functions. However, this file is not part of the Report functions.

Generating the LOGSCAN job

There are two steps to generating the LOGSCAN job that you must perform before there will be any reports for you to view.

- a pre-processor job that consolidates the DFHSM reports
- the LOGSCAN job that creates output reports, based on the parameters you specify in the JCL.

Both of these steps are described in this section.

Pre-processor job: To consolidate the DFHSM activity logs, go to the Generate System-Related JCL screen, which is option S.2.8 from the SAW main menu. On this screen, type **S** to select the "Merge DFHSM log data sets" option, then make entries in the LOG and HLQ fields for that option. Parameters you can enter in those fields are described in the next table, followed by a screen showing the JCL that is generated by a "Merge" option.

Table 26. Parameters for consolidating DFHSM logs

Parameter	Description
LOG	Enter one of the following parameters in the LOG field to indicate which DFHSM logs you want to include in the LOGSCAN job. • *ALL*. (default) All logs will be copied, with the exception of ABARS. • *MIG*. Only migration logs will be copied. • *BAK*. Only backup logs will be copied. • *DMP*. Only dump logs will be copied. • *CMD*. Only command logs will be copied. • *TEST*. Used in combination with one of the above parameters. Separate TEST and the other parameter with a blank character, such as ALL TEST. The TEST parameter prevents deletion of the source activity log data sets during installation and testing.
HLQ	This is the high level qualifier for the DFHSM activity logs. The default HLQ is HSMACT. If it needs to be modified, you can do that here or through option 9, **SDC Variables**, on the Installation menu, which is option S.1.9 from the SAW main menu.

```
//* THIS JOB WILL CONSOLIDATE DFHSM ACTIVITY LOGS TO
//* HSMHCPY FROM THE DASD ACTIVITY LOGS, LOGSCAN PROCESSES THEM
//* TO CREATE THE LOGSCAN REPORT ETC AND THEN THEY ARE ARCHIVED.
//* THE ACTLOG FILE IS THEN SENT TO THE DATABASE.
//*****************************************************************
//DELETE EXEC PGM=IEFBR14
//DEL1    DD  DSN=SMPSHR.HSMHCPY.SYSMVSB,UNIT=SYSDA,
//            SPACE=(TRK,(0)),DISP=(MOD,DELETE)
//*****************************************************************
//* CONSOLIDATE ACTIVITY LOGS VIA LOGSCAN PRE-PROCESSOR
//*****************************************************************
//UTSLGP EXEC PGM=IKJEFT01,DYNAMNBR=420,REGION=4096K,
//   PARM='BAEE106 1 DFHSM ALL TEST'
//SYSTSPRT DD SYSOUT=*
//SYSPROC  DD DSN=SMPSHR.SAWR.EXEC,DISP=SHR
//SYSEXEC  DD DSN=SMPSHR.SAWR.EXEC,DISP=SHR
//SYSUT2   DD DISP=(MOD,CATLG),SPACE=(TRK,(5,90),RLSE),
//            DCB=(RECFM=FBA,LRECL=121,BLKSIZE=0,DSORG=PS),
//            DSN=SMPSHR.HSMHCPY.SYSMVSB,UNIT=SYSDA
//SYSIN    DD DUMMY
//SYSTSIN  DD DUMMY
```

Generate LOGSCAN job: To generate the JCL that executes the LOGSCAN process, perform the following steps:

1. On the SAW main menu, type **S** to select the **Setup** option.
2. On the Setup and Configuration Options menu, type **2** to select the **Configuration** option.
3. On the Dataplex and System Maintenance menu, type **9** to select the **Dataplex JCL** option.
4. On the Generate Dataplex-Related JCL screen, make the following entries:
   a. Type **J** for "JCL" in the "Select the items below as:" field.
   b. Type **N** for "No" in the DEF-GDG field, assuming that a GDG has already been created (only done once).
   c. Type a **one- to eight-character name** in the "Member:" field at the bottom of the screen. This is where the output will be stored.
   d. Type **S** next to the "LOGSCAN" option.
   e. Press Enter.

An example of the LOGSCAN JCL is shown in the next figure.

```
//SCAN1    EXEC PGM=LOGSCAN,PARM='/ACTION'
//HSMHCPY  DD DSN=SMPSHR.HSMLOG.COPY(+1),DISP=SHR
//REPORT   DD DISP=(NEW,CATLG),
//            DSN=SMPSHR.LOGSC.TSOB.REPORT(+1),
//            UNIT=SYSDA,SPACE=(TRK,(1,15),RLSE),
//            DCB=(SMPSHR.GDG.REF,
//            LRECL=133,BLKSIZE=0,RECFM=FBA,DSORG=PS)
//MIGRATE  DD DISP=(,CATLG,DELETE),
//            DSN=SMPSHR.LOGSC.TSOB.MIGRATE(+1),
//            UNIT=SYSDA,SPACE=(TRK,(1,15),RLSE),
//            DCB=(SMPSHR.GDG.REF,
//            RECFM=FBA,LRECL=80,BLKSIZE=0,DSORG=PS)
//BACKUP   DD DISP=(,CATLG,DELETE),
//            DSN=SMPSHR.LOGSC.TSOB.BACKUP(+1),
//            UNIT=SYSDA,SPACE=(TRK,(1,15),RLSE),
//            DCB=(SMPSHR.GDG.REF,
//            RECFM=FBA,LRECL=80,BLKSIZE=0,DSORG=PS)
//SYSPRINT DD SYSOUT=*
//MCDS     DD DSN=DFHSM.MCDS,DISP=SHR,
//            AMP=('BUFND=14,BUFNI=8')
//HSMPARM  DD DISP=SHR,DSN=SMPSHR.LSAWR.SKELS(BAES236)
//ARCSMSO  DD DISP=SHR,DSN=SMPSHR.LSAWR.SKELS(BAES237)
//ACTLOG   DD DSN=SMPSHR.LOGSCAN.ACTLOG,DISP=(,CATLG,DELETE),
//            UNIT=SYSDA,SPACE=(TRK,(1,15),RLSE),
//            DCB=(RECFM=FB,LRECL=34,BLKSIZE=0,DSORG=PS)
//CONTROL  DD DSN=&&PLEX,DISP=(OLD,PASS)
//LOGWORK  DD UNIT=SYSDA,SPACE=(TRK,(1,10),RLSE),
//            DCB=(RECFM=VB,LRECL=184,BLKSIZE=0,DSORG=PS)
//STEPLIB  DD DSN=SMPSHR.SAWR.LOAD,DISP=SHR
```

In the generated JCL, there are steps preceding SCAN1 of the LOGSCAN JCL, which are DELETE, DPLEX, PLG, and ARCHIVE. These steps delete the old ACTLOG file and copy all activity log files from the different systems of the dataplex into one file.

The steps that follow after the LOGSCAN JCL are XMIT, PLG1, PLG3, and STEP13. These steps transmit information about the LOGSCAN run to the dataplex in charge of the center storage administration inventory. (CSAI).

The steps before and after the LOGSCAN JCL are not shown in the example above. The table below describes the LOGSCAN JCL that is in the example.

Table 27. DD statements required to execute LOGSCAN

DD name	Usage	Description
SCAN1	Program	There are three parameters that can be specified in the EXEC statement in the JCL, which are ACTION, NOACTION, and RC2. These parameters are described below: • */ACTION*. This parameter indicates that you want "backup and migration actions" files to be created. Ex: EXEC PGM=LOGSCAN,PARM='/ACTION' However, if ACTION is specified, and either the backup or migrate actions files are not allocated, neither file will be written to. It will in effect be a "no action". • */NOACTION*. This is the default. This parameter indicates that you do not want "backup and migration actions" files to be created. Ex: EXEC PGM=LOGSCAN,PARM='/NOACTION' However, if NOACTION is specified, but the action files for backup and migrate are allocated, they will not be written to. They will be empty files. • */RC2*. This parameter can be used to suppress ARC07341 R C=2 messages from being listed in the "Failures and Problems" section of the report. This is useful if you know of catalog discrepancies that exist in a dataplex and do not want these error messages every day. Ex: EXEC PGM=LOGSCAN,PARM='/RC2'
HSMCOPY	Input	DFHSM activity logs
HSMPARM	Input	DFHSM ADDVOL commands. Library and Member names must be included. Usually used for dummy ADDVOLS for SMS primary volumes.
REPORT	Output	Report file
SYSPRINT	Output	Messages
LOGWORK	Out/In	Temporary work file
BACKUP	Output	File of backup actions
MIGRATE	Output	File of migration actions
ACTLOG	Output	Activity statistics
CONTROL	Input	Dataplex identifier
DEBUG	Output	DEBUG information
ARCSMSO	Output	Suggested SMS primary volume 'ADDVOLS' (HSMPARM updates).

LOGSCAN Summary Report

The LOGSCAN Summary Report lists the problems detected at dataset level, functions performed at volume level, various statistics, and the space/fragmentation information. To view the LOGSCAN Summary Report, select option **L1** on the Reports menu (option 5.L1 from the SAW main menu). An example of a LOGSCAN Summary Report is shown below.

```
*********************************************************************
* DFHSM Activity Log Scan Report. 02:25:51 05/09/02 *
*********************************************************************

*********************************************************************
* Functional Checking and Volumes Processed *
*********************************************************************

CDS BACKUP did NOT run
Volumes MIGRATED =  ST0001 ST0002 ST0003 ST0004 ST0006 ST1001 ST1002
Volumes BACKED UP = ST0001 ST0002 ST0003 ST0004 ST0006 ST1001 ST1002
Automatic DUMP did not run
Volumes NOT MIGRATED successfully : None
Volumes NOT BACKED UP successfully : None
Volumes NOT DUMPED : MSBRES

*********************************************************************
* Statistics *
*********************************************************************

Report compiled From:
    1 SPACE MANAGEMENT runs FROM SYSTEM MVSB
    1 Automatic BACKUP runs FROM SYSTEM MVSB
    0 Automatic DUMP runs.

        Daily SPACE MANAGEMENT elapsed time is 00:01:55
        Automatic BACKUP elapsed time is 00:08:09
        Automatic DUMP elapsed time is 00:00:00

      5 Data sets MIGRATED by Space Management
    132 Data sets BACKED UP by Automatic Backup

   5.55 MB MIGRATED BY SPACE MANAGEMENT
 176.84 MB BACKED UP BY Automatic BACKUP

    60 Data sets denied MIGRATION as Data set type unsupported by DFHSM function
     3 Data sets denied BACKUP as Data set type unsupported by DFHSM function
     1 Data sets denied MIGRATE as in use elsewhere
    50 Data sets denied BACKUP as in use elsewhere

*********************************************************************
* Volumes Whose Space or Fragmentation Indices Exceed Thresholds *
*********************************************************************
No Thresholds exceeded.

*********************************************************************
* Failures and Problems *
*********************************************************************
0734, 19, 12 Unable to BACK UP data set, as in use: SMPB.BAB310.UPANELA
////////////////////////////////////////////////////////////////////////
0734, 16, 12 I/O error in BACKING UP data set: USO0392.RES.PROFILE
////////////////////////////////////////////////////////////////////////
0734, 87, 8 Discrepancy found with VTOC Entry for BACKUP: FOO4424.MASTER.PLI
////////////////////////////////////////////////////////////////////////
0734, 19, 12 Unable to BACK UP data set, as in use: SMCFG.BAQ120.SDDS
////////////////////////////////////////////////////////////////////////
END OF LOGSCAN REPORT (SAWR 2.2.0).
```

The following table describes the information in the LOGSCAN Summary Report.

Table 28. Parameters for consolidating DFHSM logs

Section Title	Description
Functional Checking and Volumes Processed	The first section of the report includes: • Notification on whether the DFHSM Control Data Sets (CDS) have been backed up successfully • List of volumes successfully migrated • List of volumes successfully backed up • List of volumes successfully dumped • List of volumes unsuccessfully migrated • List of volumes unsuccessfully backed up • List of volumes unsuccessfully dumped.
Statistics	The second section contains a set of statistics that cover DFHSM activities. These include: • Elapsed time for backup, migration, and dump functions • Number of data sets that were migrated and backed up • Amount of space in megabytes migrated and backed up • Number of data sets denied migration or backup for any of the following reasons: — unsupported data set organization — in use elsewhere — empty — uncataloged. • Number of data sets that have been processed by extent reduction • Number of data sets expired by the EXPIREBV command. **Note:** Any zero values are not written to the report.
Volumes whose Space or Fragmentation Indices Exceed Thresholds	The third section of the report contains information about the space threshold and fragmentation indices of the volumes. Any volume that exceeds the thresholds will be listed in the report.

Table 28. Parameters for consolidating DFHSM logs (continued)

Section Title	Description
Failures and Problems	The last section of the report contains messages that are produced under the following conditions: • Data set in use • PDS errors • Duplicate MCDS entry • I/O error • Insufficient DFHSM space • Volume in use • Empty data set • Uncataloged data set • Multi-volume data set • Unsupported data set organization • Space management failed to restart • SDSP full • Movement of backup version failed • RACF denied access • VSAM export failed • Insufficient level of DFDSS

Migrate Actions File

If you used the ACTION parameter in your EXEC statement in the LOGSCAN job, as described in “Generate LOGSCAN job:” on page 140, a "migrate actions" file is created. When you choose option L2, **Migrate Actions File**, on the Reports menu (option 5.L2 from the SAW main menu), you can view a list of MIGRATE actions that were not successful. This may be due to insufficient space on migration volumes or because the data set is currently in use.

An example of a Migrate Actions File report is shown below.

```
******************************** TOP OF DATA ********************

HSEND MIGRATE DSNAME(SMCFG.BAQ110.EXEC )

HSEND MIGRATE DSNAME(SMCFG.BAQ110.EXEC )

******************************** BOTTOM OF DATA ********************
```

When you have addressed the migration problems, the report file can be executed under TSO to send the commands to DFHSM. By executing this file, the migration actions that were unsuccessful will be run again.

Note: If you select option L2, but the report file is empty, it can mean one of two things:

- The /ACTION parameter was not specified in the EXEC line of the LOGSCAN job so a migration action file was not created.

- The /ACTION parameter was specified in the EXEC line of the LOGSCAN job, but the MIGRATE actions file was not allocated because the actions did not fail.

Backup Actions File

If you used the ACTION parameter in your EXEC statement in the LOGSCAN job, as described in “Generate LOGSCAN job:” on page 140, a "backup actions" file is created. When you choose option L3, **Backup Actions File**, on the Reports menu (option 5.L3 from the SAW main menu), you can view a list of BACKUP actions that were not successful. This may be due to insufficient space on backup volumes or because the data set is currently in use.

An example of a Backup Actions File report is shown below.

```
******************************** TOP OF DATA ********************

HSEND BACKDS SMCFG.BAQ110.EXEC

******************************** BOTTOM OF DATA *******************
```

When you have addressed the backup problems, the report file can be executed under TSO to send the commands to DFHSM. By executing this file, the backup actions that were unsuccessful will be run again.

Note: If you select option L3, but the report file is empty, it can mean one of two things:

- The /ACTION parameter was not specified in the EXEC line of the LOGSCAN job so a BACKUP actions file was not created.
- The /ACTION parameter was specified in the EXEC line of the LOGSCAN job, but the BACKUP actions file was not allocated, meaning there were no problems.

DFHSM Activity Log

To view all of the DFHSM activity logs that were used as input for the LOGSCAN utility, select option L4, **DFHSM Activity Log**, on the Reports menu (option S.L4 on the SAW main menu). The DFHSM activity logs were copied to this report file when the JCL was generated for the LOGSCAN job, which was done through the LOGSCAN option on the Generate Dataplex-Related JCL screen (option S.2.9 on the SAW main menu). If you need to track an action back to the DFHSM activity log, you would use this option (L4).

Chapter 7. Using Utilities

SAW provides an interface to a number of IBM utilities that you may find useful when performing storage management activities. While each of these utilities is described in detail in IBM documentation, they are briefly explained in this chapter so that you will understand what to enter in the input fields to get the results you want. References to the appropriate IBM documentation are provided so you can do more research on a specific utility.

To access utilities, select option **U**, Utilities, on the SAW main menu. The following screen displays:

```
----------------------------- Utilities --------------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  CAMS            Catalog Access Method Services using IDCAMS

   2  DFDSS           Data Storage Services using ADRDSSU

   3  DSF             Device Support Facilities using ICKDSF
```

There are three options on the Utilities menu. Each of these options, and the utilities listed under them, are described in this chapter.

If you choose option 1, **CAMS**, the following screen displays. All of the IDCAMS utilities that are available from SAW are listed on the IDCAMS Functions menu.

```
----------------------------- IDCAMS Functions -------------------------------
OPTION ===>
System: SYSNAME1                Local Dataplex: MYDPLEX
   1 CONNECT      CONNECT    USER Catalog to   MASTER Catalog
   2 DISCONNECT   DISCONNECT USER Catalog from MASTER Catalog
   3 DEF   MCAT   DEFINE MASTER Catalog
   4 DEF   UCAT   DEFINE USER Catalog
   5 DEF  ALIAS   DEFINE ALIAS
   6 DEL  ALIAS   DELETE ALIAS
   7 LIST ALIAS   LIST ALIAS
   8 DEF    GDG   DEFINE Generation Data Group (GDG)
   9 DEL    GDG   DELETE Generation Data Group (GDG)
  10 ALTER  GDG   ALTER  GDG Options
  11 LIST   GDG   LIST   Generation Data Group (GDG)
  12 CACHE        CACHE related IDCAMS Functions
  13 DIAGNOSE     DIAGNOSE BCS or VVDS structure
  14 DEF   VVDS   DEFINE VVDS
  15 DEL   VVDS   DELETE VVDS
  16 LOCK UNLOCK  LOCK UNLOCK Catalog
```

Each of these utilities is briefly described in "Using IDCAMS Utilities" on page 150.

If you choose option 2, **DFDSS**, on the Utilities menu, a list of ADRDSSU functions will display. The ADRDSSU Functions menu is shown below.

```
---------------------------- ADRDSSU Functions -------------------------------
OPTION ===>
System: SYSNAME1                Local Dataplex: MYDPLEX
   1  DEFRAG           Execute DEFRAG function
   2  MOVE/COPY DSN    MOVE or COPY data set(s) to other volume(s)
   3  MOVE/COPY VOL    MOVE or COPY the contents of volser(s)
   4  COPY VOLUME      COPY one volume to another volume (incl. VTOC)
   5  CONVERTV         Execute CONVERTV function
   6  SPECIAL BACKUP   Create JCL for special backup processing
```

For information on the ADRDSSU functions, refer to "Using ADRDSSU utilities" on page 179.

If you choose option 3, **DSF**, on the Utilities menu, you will see a list of ICKDSF functions. The next screen shows the ICKDSF Functions menu.

```
----------------------------- ICKDSF Functions -------------------------------

OPTION ===>

System: SYSNAME1      Dataplex: MYDPLEX      Mode:                Local

   1  INIT-3380        INIT MVS-DISK unit type 3380 model-D/-J or standard

   2  INIT-3380E       INIT MVS-DISK unit type 3380 model-E

   3  INIT-3380K       INIT MVS-DISK unit type 3380 model-K

   4  INIT-3390-01     INIT MVS-DISK unit type 3390 model-01

   5  INIT-3390-02     INIT MVS-DISK unit type 3390 model-02

   6  INIT-3390-03     INIT MVS-DISK unit type 3390 model-03

   7  INIT-3390-09     INIT MVS-DISK unit type 3390 model-09

   8  INIT-3390-Opt    INIT MVS-DISK unit type 3390 Optical

   9  INIT DISK        INIT MVS-DISK (no special unit type)

  10  CONTROL          Clear WRITE INHIBITED STOR-CONTROL or PATH FENCE STATUS

  11  INSPECT          INSPECT A VOLUME OR REASSIGN DEFECTIVE TRACKS

  12  REFORMAT         RENAME A VOLUME

  13  ANALYZE          ANALYZE A VOLUME FOR ERRORS

  14  BUILDIX          BUILD or REBUILD VTOC-INDEX
```

Refer to “Using Device Support Facilities (DSF)” on page 194 for more information on these functions.

To help you understand each of these utilities, the rest of the chapter contains:

- The ISPF screen displaying the parameters for each utility
- Sample JCL that corresponds to the ISPF screen

The library, `*.*.ISPSLIB(member)`, is mentioned throughout this chapter. In this library `*.*.` refers to the HLQ and SLQ that was selected when the product was installed.

Using IDCAMS Utilities

To access the IDCAMS utilities, select option 1, **CAMS**, on the Utilities menu (option U.1 from the SAW main menu). The following screen displays.

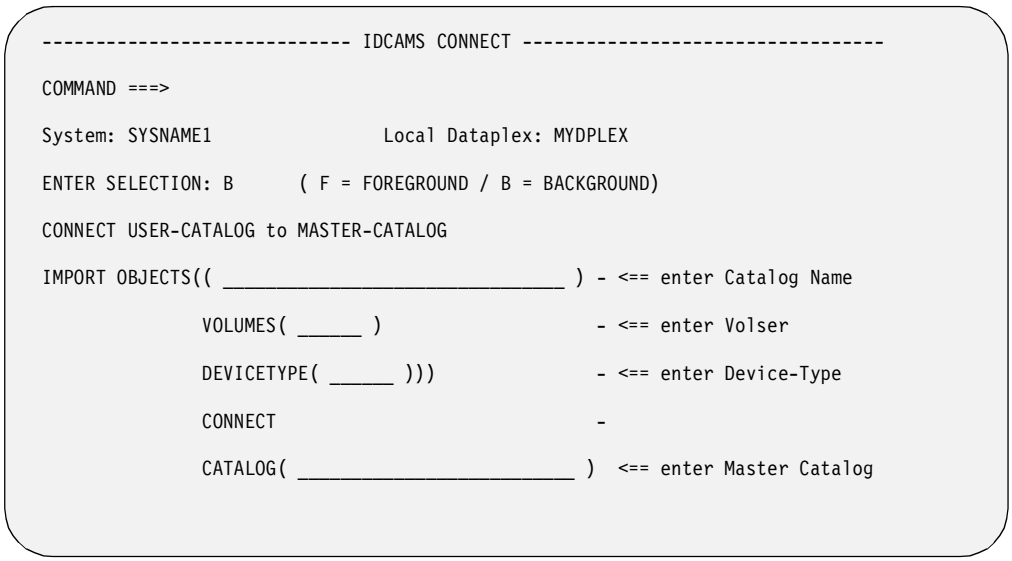
```
----------------------------- IDCAMS Functions -------------------------------

OPTION ===>

System: SYSNAME1                Local Dataplex: MYDPLEX

   1 CONNECT      CONNECT    USER Catalog to   MASTER Catalog

   2 DISCONNECT   DISCONNECT USER Catalog from MASTER Catalog

   3 DEF   MCAT   DEFINE MASTER Catalog

   4 DEF   UCAT   DEFINE USER Catalog

   5 DEF  ALIAS   DEFINE ALIAS

   6 DEL  ALIAS   DELETE ALIAS

   7 LIST ALIAS   LIST ALIAS

   8 DEF    GDG   DEFINE Generation Data Group (GDG)

   9 DEL    GDG   DELETE Generation Data Group (GDG)

  10 ALTER  GDG   ALTER  GDG Options

  11 LIST   GDG   LIST   Generation Data Group (GDG)

  12 CACHE        CACHE related IDCAMS Functions

  13 DIAGNOSE     DIAGNOSE BCS or VVDS structure

  14 DEF   VVDS   DEFINE VVDS

  15 DEL   VVDS   DELETE VVDS

  16 LOCK UNLOCK  LOCK UNLOCK Catalog
```

Each of these options is described in this section.

Option 1 - Connect

The IMPORT CONNECT command is used to connect a user catalog to the master catalog. To use this command, you must describe the user catalog by specifying its name, the volser on which it resides, and the device type.

When you choose option 1, **Connect**, on the IDCAMS Functions menu (option U.1.1 from the SAW main menu), the following screen displays:



The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS287), which contains the IMPORT CONNECT statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M  <--AWBS283 E

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------------------
//SYSIN    DD  *

 IMPORT OBJECTS( -                          <--AWBS287

        (MYCAT1 -

        VOLUMES(SYS002) -

        DEVICETYPE(3380))) -

        CONNECT -

        CATALOG(SYSCAT)

/*

//
```

For complete details, read about IMPORT CONNECT in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 2 - Disconnect

The EXPORT DISCONNECT command is used to disconnect a user catalog. The only required argument for this command is the name of the catalog that you want to remove. Do not make an entry in the Catalog field if the entry is being removed from the master catalog.

When you choose option 2, **Disconnect**, on the IDCAMS Functions menu (option U.1.2 from the SAW main menu), the following screen displays:

```
----------------------------- IDCAMS DISCONNECT ------------------------------

COMMAND ===>

System: SYSNAME1  Local Administrative Dataplex: MYDPLEX

DISCONNECT USER-CATALOG from MASTER-CATALOG


ENTER SELECTION: B      ( F = FOREGROUND / B = BACKGROUND)


EXPORT ' _____________________________________ ' DISCONNECT <== enter catalog name


CATALOG( _____________________________________ ) <== enter master catalog if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS288), which contains the EXPORT DISCONNECT statement.

```
//*-------------------------------------------------------------------

 //IDCAMS  EXEC PGM=IDCAMS,REGION=0M

 //SYSPRINT DD  SYSOUT=*

 //*------------------------------------------------- <--AWBS283
 //SYSIN    DD  *

  EXPORT MYCAT1 DISCONNECT -          <-- AWBS288

  CATALOG(SYSCAT1)

 /*

 //
```

For complete details, read about EXPORT DISCONNECT in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 3 - DEF MCAT

The DEFINE MASTERCATALOG command is used to define the parameters for an integrated catalog facility catalog (ICFCATALOG). When you choose option 3, **DEF MCAT**, on the IDCAMS Functions menu (option U.1.3 from the SAW main menu), the following screen displays:

```
----------------------------- Catalog Utilities ------------------------------

COMMAND ==>

System: SYSNAME1               Local Dataplex: MYDPLEX

ENTER SELECTION: B      ( B = BACKGROUND)


DEFINE MASTERCATALOG (                              -

       NAME ( ___________________________________ )   - <== enter Name of MCAT

       VOL  ( ______ )                               - <== enter Volser

       CYL  ( 010  005 ) IMBED ICFCATALOG STRNO(2)) - <== enter Space


       DATA (CISZ( 2048 ) FSPC( 30  30 ) BUFND(3))  -

       INDEX(CISZ( 4096 ) BUFNI(3))
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS238), which contains the DEFINE MASTERCATALOG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------- <--AWBS283
//SYSIN    DD  *
 DEFINE MASTERCATALOG( -                      <-- AWBS238
        NAME(SYSCAT) -
        VOL(SYS002) -
        CYL(010 005) -
        IMBED ICFCATALOG STRNO(2)) -
        DATA(CISZ(2048) FSPC(30 30) BUFND(3)) -
        INDEX(CISZ(4096) BUFNI(3))
/*
//
```

The table below briefly describes the parameters for the JCL.

Parameter	Description
MASTERCATALOG	Identifies this catalog as a master catalog.
NAME	Specify the name of the master catalog.
VOL	Indicate where the volume will reside.
CYL	Specify the amount of space in cylinders that is required for primary and secondary allocations.
IMBED	This parameter is no longer supported, but is provided for downward compatibility.
STRNO(2)	This is a VSAM tuning argument. It indicates the number of concurrent data set positioning calls that are supported.
DATA	You can override the details of the data transfer parameters by specifying the size of the control intervals (CISZ).
FSPC	Free space (FSPC) is the percentage of the control interval (CI) and control area (CA) that is left free for later inserts of data. FSPC is a tuning variable.
BUFND	The number of I/O buffers used to access the data.
INDEX	You can override the details of the data transfer parameters by specifying the size of the control intervals (CISZ).
BUFNI	The number of I/O buffers used to access the index.

For complete details, read about DEFINE MASTERCATALOG in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 4 - DEF UCAT

The DEFINE USERCATALOG command is used to define the parameters for an integrated catalog facility catalog (ICFCATALOG). When you choose option 4, **DEF UCAT**, on the IDCAMS Functions menu (option U.1.4 from the SAW main menu), the following screen displays:

```
 ---------------------------- Catalog Utilities ------------------------------
COMMAND ==>

System: SYSNAME1               Local Dataplex: MYDPLEX

ENTER SELECTION: B      ( B = BACKGROUND)

DEFINE USERCATALOG (                                -
       NAME ( _____________________________________ )   - <== enter Name of MCAT
       VOL  ( ______ )                                 - <== enter Volser
       CYL  ( 050  010 ) IMBED ICFCATALOG STRNO(2)  - <== enter Space
              ______                                 ) - <== enter LOCK or Blank


       DATA (CISZ( 2048 ) FSPC( 30  30 ) BUFND(3))  -
       INDEX(CISZ( 4096 ) BUFNI(3))
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS239), which contains the DEFINE USERCATALOG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------------- <--AWBS283 E
//SYSIN    DD  *
 DEFINE USERCATALOG( -                          <--AWBS239
       NAME(MYCAT1) -
       VOL(SYS002) -
       CYL(050 010) -
       IMBED ICFCATALOG STRNO(2) LOCK) -
       DATA(CISZ(2048) FSPC(30 30) BUFND(3)) -
       INDEX(CISZ(4096) BUFNI(3))
/*
//
```

The table below briefly describes the parameters in the JCL.

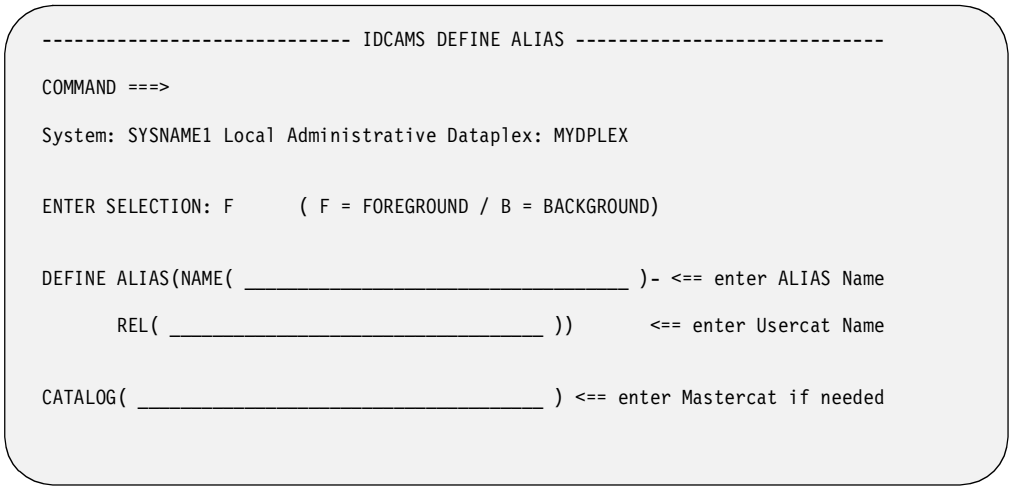
Parameter	Description
USERCATALOG	Identifies this catalog as a user catalog.
NAME	Specify the name of the user catalog.
VOL	Indicate where the volume will reside.
CYL	Specify the amount of space in cylinders that is required for primary and secondary allocations.
IMBED	This parameter is no longer supported, but is provided for downward compatibility.
STRNO(2)	This is a VSAM tuning argument. It indicates the number of concurrent data set positioning calls that are supported.
LOCK	Specify this parameter to create the catalog with restricted access. The default is UNLOCK.
DATA	You can override the details of the data transfer parameters by specifying the size of the control intervals (CISZ).
FSPC	Free space (FSPC) is the percentage of the control interval (CI) and control area (CA) that is left free for later inserts of data. FSPC is a tuning variable.
BUFND	The number of I/O buffers used to access the data.
INDEX	You can override the details of the data transfer parameters by specifying the size of the control intervals (CISZ).
BUFNI	The number of I/O buffers used to access the index.

For complete details, read about DEFINE USERCATALOG in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 5 - DEF ALIAS

The DEFINE ALIAS command is used to specify an alternate name for a catalog. The NAME parameter is the new name, the alias, that you are defining. The REL parameter is the related name, which is the name of the original catalog. In other words, the name you provide with the NAME parameter is the alias for the catalog listed in the REL parameter. Leave the CATALOG name field blank if the alias is to be created in the master catalog.

When you choose 5, **DEF ALIAS**, on the IDCAMS Functions menu (U.1.5 from the SAW main menu), the screen below displays.



The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS289), which contains the DEFINE ALIAS statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------  <--AWBS283
//SYSIN    DD  *
 DEFINE ALIAS(NAME(JULIEG) REL(MYCAT1)) -          <--AWBS289
 CATALOG(MASTER1)
/*
//
```

For complete details, read about DEFINE ALIAS in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 6 - DEL ALIAS

The DELETE ALIAS command is used to delete an alternate name for a catalog. The NAME parameter is the alias that you are deleting. Leave the CATALOG name field blank if the alias is defined in the master catalog.

When you choose 6, **DEL ALIAS**, on the IDCAMS Functions menu (U.1.6 from the SAW main menu), the following screen displays:

```
----------------------------- IDCAMS DELETE ALIAS -----------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)


DELETE  ____________________________________  ALIAS  <== enter ALIAS Name


CATALOG( ___________________________________ )   <== enter Mastercat if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS290), which contains the DELETE ALIAS statement.

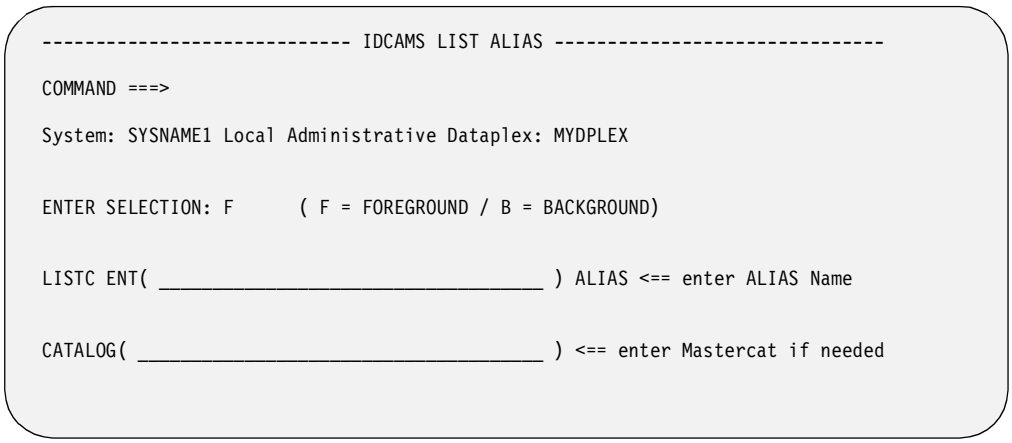
```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------  <--AWBS283

//SYSIN    DD  *

 DELETE MYCATG CATALOG(SYSCAT1) ALIAS          <--AWBS290
/*

//
```

For complete details, read about DELETE ALIAS in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 7 - LIST ALIAS

The LIST ALIAS command displays alias entries from a catalog. Specify the alias name in the ENT (entry) field. Omit the catalog name if the alias is defined in the master catalog.

When you choose option 7, **LIST ALIAS**, on the IDCAMS Functions screen (U.1.7 from the SAW main menu), the following screen displays:



The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS299), which is part of the EXEC statement, and *.*.ISPSLIB(AWBS283), which contains the LIST ALIAS statement.

```
//*--------------------------------------- <-- AWBS299 S
//             MSGCLASS=AWBSCL,MSGLEVEL=(1,1),
//             CLASS=AWBECL,
//             TIME=1439,REGION=0M
/*JOBPARM SYSAFF=RSO2,LINES=9999,CARDS=99999
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------  <--AWBS283
//SYSIN    DD  *
  LISTCAT ENT(MYCATG) CATALOG(SYSCAT1) ALIAS ALL    <--AWBS003
 /*
 //
```

For complete details, read about LIST ALIAS in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 8 - DEF GDG

The DEFINE GDG command creates a catalog entry for a generation data group (GDG). When you choose option 8, **DEF GDG**, on the IDCAMS Functions screen (U.1.8 from the SAW main menu), the following screen displays:

```
----------------------------- IDCAMS DEFINE GDG ------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)

DEFINE GENERATIONDATAGROUP(                          -

     NAME( ____________________________________ )  - <== enter Dataset Name

         ( _______ )                                 - <== NOEMPTY/EMPTY

         ( ________ )                                - <== NOSCRATCH/SCRATCH

          LIMIT( ___ ))                                <== enter LIMIT Count

CATALOG( ____________________________________ ) <== enter catalog if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS291), which contains the DEFINE GDG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------------<--AWBS283 E
//SYSIN    DD  *
   DEF GDG(NAME(DEV01.WORK) EMPTY SCRATCH -      <--AWBS291
     LIMIT(3)) CATALOG(SYSCAT1)
/*
//
```

The table below briefly describes the parameters in the JCL.

Parameter	Description
NAME	Specify the name of the data set
EMPTY NOEMPTY	Use EMPTY to indicate that every generation should be deleted when the limit is exceeded. Use NOEMPTY to only delete the oldest generation.

Parameter	Description
SCRATCH NOSCRATCH	Use SCRATCH if you want all of the control information (DSCB) to be deleted when a generation is deleted from the catalog. Use NOSCRATCH to keep the control information intact so the data set generation can still be located after the generation version is uncataloged.
LIMIT	Specify how many versions will be kept in the generation data group.

For complete details, read about DEFINE GENERATIONDATAGROUP in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 9 - DEL GDG

The DELETE GDG command deletes the generation data group (GDG) specified in the data set name field. The PURGE parameter specifies that the entry will be deleted, even if its retention period has not expired. You can only delete a GDG that is empty.

When you choose option 9, **DEL GDG**, on the IDCAMS Functions (U.1.9 from the SAW main menu), the following screen displays:

```
 ----------------------------- IDCAMS DELETE GDG ------------------------------

COMMAND ===>

System: SYSNAME1  Local Administrative Dataplex: MYDPLEX

ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)

DELETE  ________________________________________   -     <== enter Dataset Name

        GENERATIONDATAGROUP PURGE

CATALOG ________________________________________    <== enter catalog if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS292), which contains the DELETE GDG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------  <--AWBS283

//SYSIN    DD  *

  DEL DEV01.WORK   -               <--AWBS292

     CATALOG(SYSCAT1) -
     GDG PURGE
/*
//
```

For complete details, read about DELETE GENERATIONDATAGROUP in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 10 - ALTER GDG

The ALTER GDG command lets you change the attributes of a generation data group (GDG). When you choose option 10, **ALTER GDG**, on the IDCAMS Functions (U.1.10 from the SAW main menu), the following screen displays:

```
----------------------------- IDCAMS ALTER GDG -------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)


ALTER   ____________________________________ '  -    <== enter Dataset Name

      ( _______ )                              -    <== NOEMPTY/EMPTY

      ( ________ )                                  <== NOSCRATCH/SCRATCH

      ( ___ )                                       <== enter LIMIT count


CATALOG( ___________________________________ ) <== enter catalog if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS293), which contains the ALTER GDG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------  <--AWBS283

//SYSIN    DD  *
 ALTER DEV01.WORK EMPTY SCRATCH LIMIT(3) -    <--AWBS293
 CATALOG(SYSCAT3)
/*
//
```

The table below briefly describes the parameters in the JCL.

Parameter	Description
NAME	Specify the name of the data set
EMPTY NOEMPTY	Use EMPTY to indicate that every generation should be deleted when the limit is exceeded. Use NOEMPTY to only delete the oldest generation.

Parameter	Description
SCRATCH NOSCRATCH	Use SCRATCH if you want all of the control information (DSCB) to be deleted when a generation is deleted from the catalog. Use NOSCRATCH to keep the control information intact so the data set generation can still be located after the generation version is deleted (uncataloged).
LIMIT	Specify how many versions will be kept in the generation data group.

For complete details, read about ALTER in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 11 - LIST GDG

The LIST GDG command lets you display a list of generation data groups (GDGs) that match the generic name you specify in the ENT (entry) field. The ALL parameter will identify generation data sets that are active at the time the LIST GDG is run.

When you choose option 11, **LIST GDG**, on the IDCAMS Functions (U.1.11 from the SAW main menu), the following screen displays:

```
 ---------------------------- IDCAMS LIST GDG --------------------------------

COMMAND ===>

System: SYSNAEM1  Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)


LISTC

   ENT( ____________________________________ ) GDG  - <== enter Dataset Name

        ALL


CATALOG( ____________________________________ ) <== enter catalog if needed
```

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS294), which contains the LIST GDG statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------   <--AWBS283

//SYSIN    DD  *
 LISTC ENT(DEV01.*) -                          <--AWBS294
     CATALOG(SYSCAT2) -
     GDG ALL
/*
//
```

For complete details, read about LISTCAT in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 12 - CACHE

When you choose option 12, **Cache**, on the IDCAMS Functions menu (U.1.12 from the SAW main menu), you are presented with a menu containing two options. You must first enter a value for the cache model that is installed on the dataplex. The forms vary for each model type:

- If your drives are 3390 units, enter 03. Cache models 06 and SK call the same form as 03.
- If your drives are 3380, enter 13.

The screen on which you specify a cache model is shown below.

```
 ---------------------------- Cache Management -------------------------------

OPTION ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Select one of the following cache models: 03  (03/06/13/23/SK)


   1  SETCACHE         Modify CACHE settings

   2  LISTDATA         List CACHE information
```

You have two options on the Cache Management screen:

1. SETCACHE. Choose option 1 to process SETCACHE functions.
2. LISTDATA. Choose option 2 to process LISTDATA functions.

The results of choosing these options are described in this section.

SETCACHE

You must understand the consequences of setting the cache subsystem and device options. Data can be lost if cache control is used inappropriately. Refer to your system documentation for details on using the cache subsystem. The Cache processing commands are described in the IBM documentation, *3990/9390 Operations and Recovery Guide* (GA32-0253-03).

When you choose option 1, **SETCACHE**, on the Cache Management screen, and have entered either **03, 06,** or **SK** as the type of cache, the next screen displays.

```
----------------------------- Cache Management --------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

Enter selection: F      ( B = BACKGROUND / F = FOREGROUND )

SETCACHE VOLUME( SYS010 )                   - <== enter any Volser on Subsystem

           UNIT( 3390 )                     - <== enter Device-Type

Choose either one Basic Function or one Extended Function only

Basic functions:

DEV ___  SUBSYS ___  NVS ___  DFW ____  CFW ____    <== enter ON, OFF or POFF

Extended functions:

DISCARDPINNED  Y      DESTAGE           _     REINITIALIZE   _  <= enter Y

SUSPENDPRIMARY _      SUSPENDSECONDARY  _                        <= enter Y

RESETTODUPLEX  _      RESETTOSIMPLEX    _                        <= enter Y

SETSECONDARY( ____ )  REESTABLISHDUPLEX( ____ )                  <= enter UCB

Dual-write options    COPY  Y       <= enter Y or N

                      PACE( 15_ )   <= 0 - 255; the number of tracks
```

The tables below describes the fields on the Cache Management screen.

Parameter	Description
SETCACHE VOLUME	Type the volser of the volume.
UNIT	Specify the unit type of the volume.

Notice that there are "Basic functions" and "Extended functions." You can either choose one basic function or one extended function. You cannot choose more than one function. These options are described in the next two tables.

For the "Basic Functions", you can activate a feature using ON or prohibit a feature using OFF. A pending off (POFF) is a special error recovery state that is used with SUBSYS or DFW after either of these failed with OFF. Use POFF carefully as data could be lost.

Parameter	Description
DEV	Type ON to activate or OFF to prohibit caching on a device.
SUBSYS	Type ON to activate or OFF to prohibit caching on all devices in a subsystem. You can also use pending off (POFF) for a special error recovery state if SUBSYS fails with OFF.
NVS	Indicate with ON or OFF whether to control access to nonvolatile storage.

Parameter	Description
DFW	Carefully choose whether to use DASD Fast Writes (DFW) or Cache Fast Writes (CFW). The DASD Fast Write process writes data both to cache and nonvolatile storage. It also schedules the data for permanent recording on DASD, a process called de-staging. Type ON to activate or OFF to prohibit DASD fast writes. You can also use pending off (POFF) for a special error recovery state if DFW fails with OFF.
CFW	Carefully choose whether to use Cache Fast Writes (CFW) or DASD Fast Writes (DFW). The Cache Fast Write process writes data to cache, but not to nonvolatile storage. This is acceptable for temporary work files. Type ON to activate or OFF to prohibit Cache Fast Writes.

The extended cache options on some models allow you to specify a pair of volumes, referred to as the primary and secondary volumes, that are used for dual writes. The secondary volume is a cache-maintained copy of the primary volume. This enables you to have continuous data backup of the primary volume.

The three extended cache options that you may find the most useful are:

- SETSECONDARY. This is used to identify a pair of volumes.
- RESETTOSIMPLEX. This ends the pairing.
- COPY. The COPY argument instructs the cache subsystem to copy the primary volume to the secondary when one of the duplex commands is issued.

All of the arguments available for dual-write processing are described in the table below, along with other "extended" functions.

Parameter	Description
DISCARDPINNED	Type **Y** to delete pinned data from the cache subsystem. "Pinned data" is data held in the cache subsystem after an error, and is a consequence of using DASD Fast Write or dual-write volumes. Pinned data may eventually be destaged (written) to DASD. It can also be discarded with the DISCARDPINNED option.
DESTAGE	Type **Y** to move data from the cache to DASD.
REINITIALIZE	Type **Y** to reset the cache subsystem to its initial state, including disabling all dual-write volumes.
SUSPENDPRIMARY	This is a a dual-write argument that stops writing to the primary volume in a pair. The secondary volume becomes the primary.
SUSPENDSECONDARY	This is a dual-write argument that stops writing to the secondary volume in a pair.
RESETTODUPLEX	This is a dual-write argument that resumes dual writes after a suspend was issued.
RESETTOSIMPLEX	This is a dual-write argument that ends a dual-write connection between two volumes. DASD Fast Write is disabled on what was the secondary volume.

Parameter	Description
SETSECONDARY	This is a dual-write argument that sets a volume as the secondary in a duplex write pairing. This starts dual-write processing for a pair of volumes. To use this option, you must specify a unit number in the SETSECONDARY field.
REESTABLISHDUPLEX	This is a dual-write argument that assigns a volume to a suspended duplex pairing and restarts dual writes. To use this option, you must specify a unit number in the REESTABLISHDUPLEX field.
COPY	Type **Y** to indicate that the cache subsystem should start copying the primary volume to the secondary volume when a dual-write pairing is activated. Type **N** if you know that the primary and secondary volumes are already identical.
PACE	Type a number from **0 - 255** to indicate how many tracks are to be written without interruption during a copy. A large number locks out other access to the volume.

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSS03), which contains the SETCACHE statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-----------------------------------------    <--AWBS283

//SYSIN    DD  *

 SETCACHE VOLUME(SYS010) -          <--AWBSS03

          UNIT(3390) -

          DPIN
 /*
//
```

If you select option 1, **SETCACHE**, and enter a value of **13** as the cache model, the next screen displays.

```
----------------------------- Cache Management -------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

Enter selection: B      ( B = BACKGROUND / F = FOREGROUND )

SETCACHE VOLUME( SYS023 )                  - <== enter any Volser on Subsystem
           UNIT( 3380__ )                  - <== enter Device-Type

Choose one of the following:

           DEVICE    ON_   SUBSYSTEM ___      <== ON or OFF
```

Specify the volser and unit type to identify the volume, then choose one option from the list. The cache only processes one option at a time. The table below describes the fields available for model 13.

Parameter	Description
SETCACHE VOLUME	Type the volser of the volume.
UNIT	Specify the unit type of the volume.
DEV	Type ON to activate or OFF to prohibit caching on a device. **Note:** You can choose DEV or SUBSYS, but not both.
SUBSYS	Type ON to activate or OFF to prohibit caching on all devices in a subsystem. **Note:** You can choose SUBSYS or DEV, but not both.

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSS13), which contains the SETCACHE statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-----------------------------------------  <--AWBS283
//SYSIN    DD  *
 SETCACHE VOLUME(SYS023) -          <--AWBSS13
          UNIT(3380) -
          DEVICE ON
/*
//
```

If you select option 1, **SETCACHE**, and enter a value of **23** as the cache model, the following screen displays:

```
 ---------------------------- Cache Management -------------------------------
COMMAND ==>

System: RSO2RSO2 Local Administrative Dataplex: RKSPLEX

Enter selection: B      ( B = BACKGROUND / F = FOREGROUND )

SETCACHE VOLUME( SYSO23 )                  - <== enter any Volser on Subsystem
           UNIT( 3380__ )                  - <== enter Device-Type


Choose one of the following:

           DEVICE    ___   SUBSYSTEM ON_      <== ON or OFF
```

Specify the volser and unit type to identify the volume, then choose one option from the list. The cache only processes one option at a time. The table below describes the fields available for model 23.

Parameter	Description
SETCACHE VOLUME	Type the volser of the volume.
UNIT	Specify the unit type of the volume.
DEV	Type ON to activate or OFF to prohibit caching on a device. **Note:** You can choose DEV or SUBSYS, but not both.
SUBSYS	Type ON to activate or OFF to prohibit caching on all devices in a subsystem. **Note:** You can choose SUBSYS or DEV, but not both.

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSS23), which contains the SETCACHE statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------  <--AWBS283
//SYSIN    DD  *
 SETCACHE VOLUME(SYSO23) -          <--AWBSS23
          UNIT(3380) -
         SUBSYSTEM ON
/*
//
```

LISTDATA

When you choose option 2, **LISTDATA**, on the Cache Management menu (U.1.12.2 from the SAW main menu), and enter **03, 06**, or **SK** as the cache model, the following screen displays:

```
----------------------------- Cache Management -------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Enter selection: F      ( B = BACKGROUND / F = FOREGROUND )


LISTDATA STATUS VOLUME( SYS010 )           - <== enter any Volser on Subsystem

                  UNIT( 3390_ )              <== enter Device-Type


Choose one of the following report types:


                 STATUS  Y                   <== enter Y or N

                 COUNTS  _                   <== enter D for DEVICE

                 PINNED  _                        or   S for SUBSYSTEM

                 DSTATUS _                        or   A for ALL
```

Specify the volser and unit type to identify the volume. Next, select one type of report from the list. The command only produces one type of report at a time. The table below describes the fields on the screen.

Parameter	Description
LISTDATA STATUS VOLUME	Type the volser of the volume.
UNIT	Specify the device type of the volume.
STATUS	Type **Y** or **N** to indicate whether you want to see the subsystem status report.
COUNTS	Indicate if you want the see the subsystem counters report. Valid entries are: • D - Prints the report for a specific device. • S - Prints a report that includes all devices within the subsystem. • A - Prints a report that includes all devices on similar Storage Control models.
PINNED	Indicate if you want the see the report on pinned data that has a cross reference to data sets. Valid entries are: • D - Prints the report for a specific device. • S - Prints a report that includes all devices within the subsystem. • A - Prints a report that includes all devices on similar Storage Control models.

Parameter	Description
DSTATUS	Indicate if you want the see the device status report. Valid entries are: • D - Prints the report for a specific device. • S - Prints a report that includes all devices within the subsystem. • A - Prints a report that includes all devices on similar Storage Control models.

All of the fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSL03), which contains the LISTDATA statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*---------------------------------------------- <--AWBS283

//SYSIN    DD  *

 LISTDATA STATUS VOLUME(SYS010) UNIT(3390)        <--AWBSL03

/*
//
```

When you choose option 2, **LISTDATA**, on the Cache Management menu (U.1.12.2 from the SAW main menu), and enter **13** as the cache model, the following screen displays:

```
----------------------------- Cache Management -------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Enter selection: F      ( B = BACKGROUND / F = FOREGROUND )


LISTDATA STATUS VOLUME( SYS010 )           - <== enter any Volser on Subsystem

                  UNIT( 3380_ )              <== enter Device-Type


Choose one of the following report types:


                  STATUS  Y                  <== enter Y or N

                  COUNTS  _                  <== enter D for DEVICE

                                                  or   S for SUBSYSTEM

                                                  or   A for ALL
```

Specify the volser and unit type to identify the volume. Next, select one type of report from the list. The command only produces one type of report at a time. The next table describes the fields on the screen.

Parameter	Description
LISTDATA STATUS VOLUME	Type the volser of the volume.
UNIT	Specify the device type of the volume.
STATUS	Type **Y** or **N** to indicate whether you want to see the subsystem status report.
COUNTS	Indicate if you want the see the subsystem counters report. Valid entries are: • D - Prints the report for a specific device. • S - Prints a report that includes all devices within the subsystem. • A - Prints a report that includes all devices on similar Storage Control models.

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLI(AWBSL13), which contains the LISTDATA statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------  <--AWBS283

//SYSIN    DD  *

 LISTDATA STATUS VOLUME(SYS010) UNIT(3380)        <--AWBSL13

/*
//
```

When you choose option 2, **LISTDATA**, on the Cache Management menu (U.1.12.2 from the SAW main menu), and enter **23** as the cache model, the following screen displays:

```
---------------------------- Cache Management -------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Enter selection: F      ( B = BACKGROUND / F = FOREGROUND )


LISTDATA STATUS VOLUME( SYS010 )           - <== enter any Volser on Subsystem

                  UNIT( 3380_ )              <== enter Device-Type


Choose one of the following report types:

                 STATUS  Y                   <== enter Y or N

                 COUNTS  _                   <== enter D for DEVICE

                                                  or   S for SUBSYSTEM

                                                  or   A for ALL
```

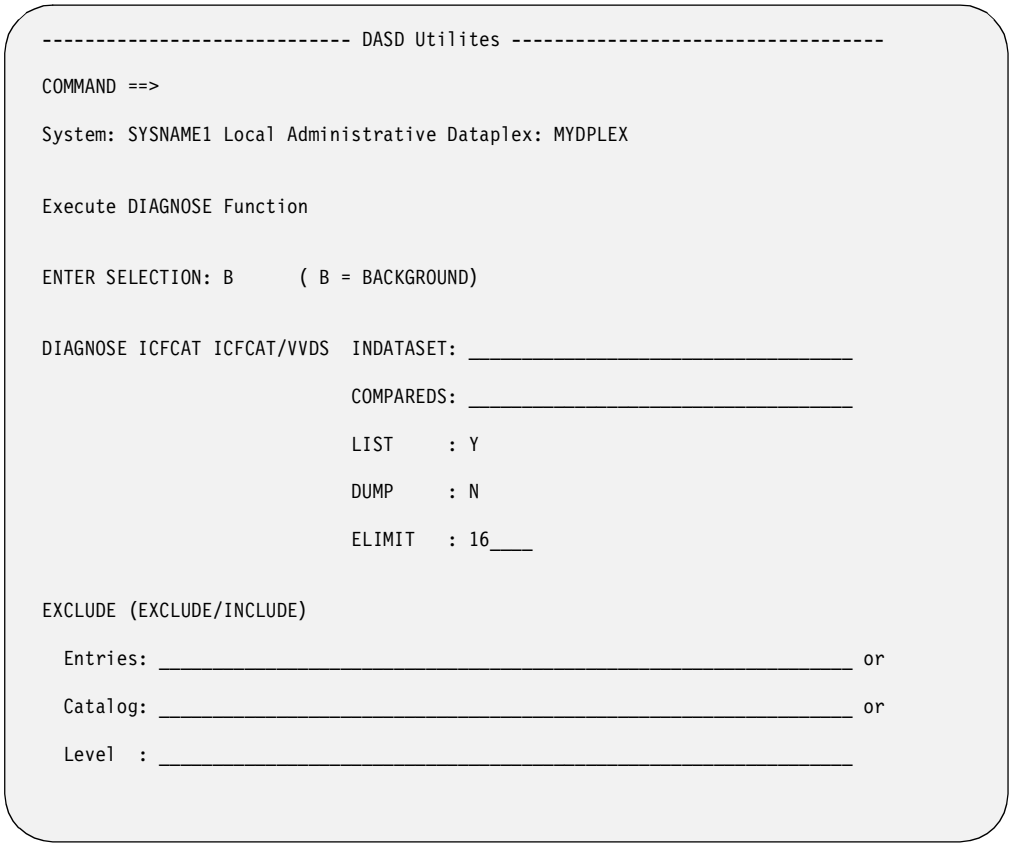
Parameter	Description
LISTDATA STATUS VOLUME	Type the volser of the volume.
UNIT	Specify the device type of the volume.
STATUS	Type **Y** or **N** to indicate whether you want to see the subsystem status report.
COUNTS	Indicate if you want the see the subsystem counters report. Valid entries are: • D - Prints the report for a specific device. • S - Prints a report that includes all devices within the subsystem. • A - Prints a report that includes all devices on similar Storage Control models.

The fields on this screen relate to the parameters in the JCL for this utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSL23), which contains the LISTDATA statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------   <--AWBS283
//SYSIN    DD  *
 LISTDATA STATUS VOLUME(SYS023) UNIT(3380)          <--AWBSL23

/*
//
```

Option 13 - Diagnose

The DIAGNOSE command scans a basic catalog structure (BCS) or a VSAM volume data set (VVDS) to validate the data structures and detect structure errors. When you choose option 13, **DIAGNOSE**, on the IDCAMS Functions menu (U.1.13 from the SAW main menu), the following screen appears:



The fields on this screen are briefly described in the table below:

Parameter	Description
ICFCAT/VVDS	Select either ICFCAT to check the catalog entries or VVDS to check the VSAM volume data set.
INDATASET	Supply a data set name.
COMPAREDS	Supply a data set name if you want to run a comparison between the basic catalog structure (BCS) and the VSAM volume data set (VVDS). You can specify more than one name.
LIST	Enter Y if you want a list of all scanned entries and any errors. Enter N if you want a list of entries that are in error.
DUMP	Indicate whether you want a hexadecimal dump of comparison errors. Enter Y for yes, N for no.
INCLUDE EXCLUDE	The INCLUDE/EXCLUDE parameter provides three different types of filtering. Pick only one of the following types of filters: • ENTRIES. A list of entry names. • CATALOG. A list of catalogs. • LEVEL. A list of high level qualifiers.

The fields on the screen relate to the parameters in the JCL for this DIAGNOSE utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBSDI1), which contains the DIAGNOSE statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------   <--AWBS283
//SYSIN    DD  *
  DIAGNOSE ICFCAT -                      <--AWBSDI1
          LIST -
          NODUMP -
          ELIMIT(16) -
          EXCLUDE(ENT(DEV01.WORK1)) -
          INDATASET(USERCAT.V039R8)
/*
//
```

For complete details, read about DIAGNOSE in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 14 - DEF VVDS

This option uses the DEFINE CLUSTER command to define attributes for a VVDS (VSAM volume data set). The data set name listed in the NAME field is built automatically. You must specify a volser in the VOLUME field that will be appended to the data set name. The default space allocation in the NONINDEXED TRACKS field is 60 initial tracks, 30 secondary tracks. You can change the number of tracks to fit your needs.

When you choose option 14, **DEF VVDS**, the IDCAMS Functions menu (U.1.13 from the SAW main menu), the following screen appears:

```
 ---------------------------- IDCAMS DEFINE VVDS -----------------------------
COMMAND ===>

System: RSO2RSO2 Local Administrative Dataplex: RKSPLEX


DEFINE VVDS on volume


 ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)


 Attention: The volume serial must be online to perform this action


DEFINE CLUSTER(

       NAME( SYS1.VVDS.V_____________________________ )  -

       VOLUME( ______ )                                  -

       NONINDEXED                                        -

       TRACKS( 60_ 30_ ))
```

The fields on the screen relate to the parameters in the JCL for this DEFINE CLUSTER utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS296), which contains the DEFINE CLUSTER statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------- <--AWBS283

//SYSIN    DD  *

 DEFINE CLUSTER(NAME(SYS1.VVDS.V) -       <--AWBS296

        VOLUMES(SYSOO2) NONINDEXED TRACKS(60 30))

/*
//
```

For complete details, read about DEFINE CLUSTER in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 15 - DEL VVDS

This option uses the DELETE CLUSTER command to delete a VSAM volume data set (VVDS). You must complete the VVDS name by adding the volser to the string. Specify the same volser in the FILE field. This is used to name a DD statement in the JCL. The DD is specified in a FILE argument to the IDCAMS DELETE function.

When you choose option 15, **DEL VVDS**, the IDCAMS Functions menu (U.1.13 from the SAW main menu), the following screen appears:

```
 ---------------------------- IDCAMS DEFINE VVDS -----------------------------
COMMAND ===>

System: RSO2RSO2 Local Administrative Dataplex: RKSPLEX


DEFINE VVDS on volume


 ENTER SELECTION: F      ( F = FOREGROUND / B = BACKGROUND)


 Attention: The volume serial must be online to perform this action


DEFINE CLUSTER(

       NAME( SYS1.VVDS.V_________________________________ )  -

       VOLUME( ______ )                                     -

       NONINDEXED                                           -

       TRACKS( 60_ 30_ ))
```

The fields on the screen relate to the parameters in the JCL for the DELETE utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS024), which contains the DELETE statement.

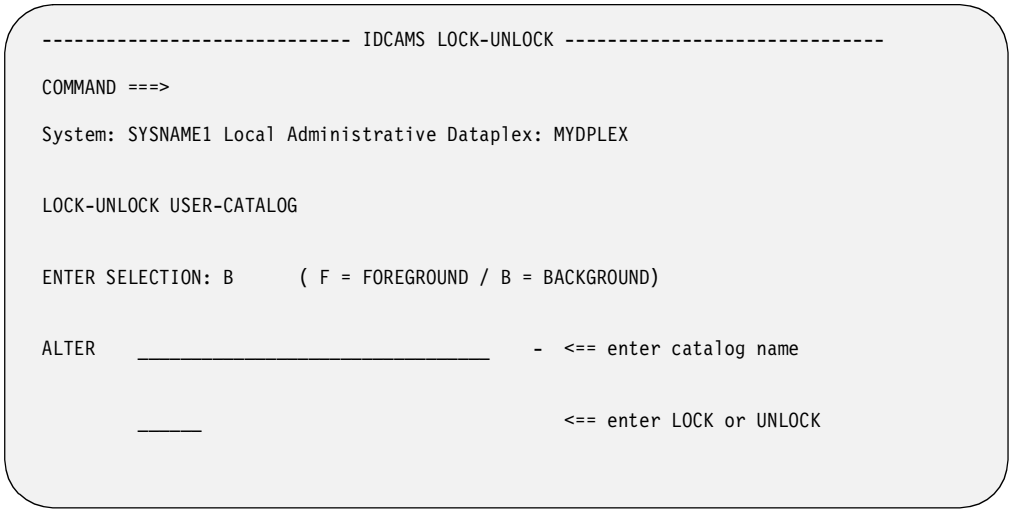
```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M

//SYSPRINT DD  SYSOUT=*

//*-------------------------------------------- <--AWBS283

//SYSIN    DD  *
//SYSIN    DD  *                              <--AWBS024

 DELETE SYS1.VVDS.V                                          -
        FILE(MYFILE) RECOVERY
/*
//MYFILE   DD  DSN=SYS1.VVDS.V,
//             VOL=SER=MYFILE,
//             UNIT=SYSALLDA,
//             DISP=SHR
//
```

For complete details, read about DELETE in the IBM documentation, *DFSMS Access Method Services for Catalogs* (SC26-7394). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Option 16 - LOCK UNLOCK

This option uses the ALTER command to set the named catalog to the LOCK or UNLOCK state to control access to the catalog. If you choose LOCK, only RACF-authorized users can access the catalog.

When you choose option 16, **LOCK UNLOCK**, on the IDCAMS Functions menu (U.1.16 from the SAW main menu), the screen below appears. Specify the catalog name, and indicate either LOCK or UNLOCK.



The fields on the screen relate to the parameters in the JCL for the ALTER utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which is the start of the EXEC statement, and *.*.ISPSLIB(AWBS111), which contains the ALTER statement.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------  <--AWBS283
 //SYSIN    DD  *
  ALTER 'MYCAT1'  -                          <--AWBS111
 LOCK
//
```

For complete details, read about ALTER in the IBM documentation, *z/OS DFSMS: Managing Catalogs* (SC26-7409). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2I210*.

Using ADRDSSU utilities

To use the ADRDSSU functions, choose option 2, **DFDSS**, on the Utilities menu (U.2 from the SAW main menu), and press Enter. The following screen displays:

```
----------------------------- ADRDSSU Functions ------------------------------

OPTION ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


   1  DEFRAG           Execute DEFRAG function

   2  MOVE/COPY DSN    MOVE or COPY data set(s) to other volume(s)

   3  MOVE/COPY VOL    MOVE or COPY the contents of volser(s)

   4  COPY VOLUME      COPY one volume to another volume (incl. VTOC)

   5  CONVERTV         Execute CONVERTV function

   6  SPECIAL BACKUP   Create JCL for special backup processing
```

Each option is part of a command that then builds a job using four skeletons.

1. Member AWBS299 in the ISPSLIB builds the job step.
2. Member AWBS010 in the ISPSLIB builds the EXEC statement.
3. The specific directives are built from a unique skeleton that is described in the JCL excerpts in this section.
4. Member AWBS241 in the ISPSLIB builds the closing statement.

Each of the ADRDSSU Functions is described in the rest of this section. However, there is one field that is common to all of the ADRDSSU screens, the "Parm" option in the upper right section of each screen. This option is described first.

PARM option

When you choose any of the menu options on the ADRDSSU Functions screen, the resulting screen will contain the "Specify PARM option:" field in the upper right hand section of the screen. Type **Y** in this field if you want to provide arguments on the EXEC statement. A menu will be presented, as shown on the next page.

```
----------------------------- DASD Utilities ---------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Enter valid PARM options


TYPRUN   : NORUN      (SCAN / NORUN)

RACFLOG  : ___        (YES         )

TRACE    : ___        (YES         )

UTILMSG  : ___        (YES         )

WORKUNIT : ________   (an esoteric DASD unit name or a generic DASD unit name)
```

The table below briefly describes each of these options.

Parameter	Description
TYPERUN	Type **SCAN** to check the syntax only. No commands are processed. Type **NORUN** to report the current status of the volume, but do not actually run DEFRAG, COPY, etc.
RACFLOG	The only valid value is **YES** to indicate that logging is always on.
TRACE	The only valid value is **YES** and this argument only applies to the DEFRAG command. This argument tells the DEFRAG command to print a list of extents that were moved.
UTILMSG	The only valid value is **Yes** to indicate that information, warning, and error messages will be copied to SYSPRINT.
WORKUNIT	Specify an esoteric name, such as SYSDA, for allocating temporary data sets.

The fields on the screen relate to the PARM parameters in the JCL for the EXEC statement. The JCL skeleton, *.*.ISPSLIB(AWBS010), is shown below with some example data.

```
//IDCAMS  EXEC PGM=IDCAMS,REGION=0M   <--AWBS010
//             PARM='TYPRUN=NORUN'
//SYSPRINT DD  SYSOUT=*
```

For complete details on the available parameters for the EXEC statement, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424), Chapter 1, *Specifying DFSMSdss Commands*. To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

Option 1 - DEFRAG

The DEFRAG command reallocates data set extents to reduce or eliminate free-space fragmentation. This allows large data sets to be allocated contiguously and prevents out-of-space errors.

When you choose option 1, **DEFRAG**, on the ADRDSSU Functions menu (U.2.1 from the SAW main menu), the following screen displays:

```
----------------------------- DASD Utilities ---------------------------------
COMMAND ==>
System: RSO2RSO2 Local Administrative Dataplex: RKSPLEX

Enter selection: B      ( B = BACKGROUND)            specify PARM option: N

 This function will eliminate free space fragmentation on the selected volume.
 You can specify fragmentation index by selecting numbers from 1 to 3.

VOLSER  : ______                 <== enter Volser for DEFRAG command
FRAGM-IX: 3                      <== enter Fragmentation-Index
MAXMOVE : ____                   <==

EXCLUDE : _____________________________________________  <= Filter for ADRDSSU

FILTER-OPTION(S):   leave >BLANK< to prevent filtering
CREATION  -DATE   __  (LT/GT     _____________  e.g.: *,-1  means older 1 day
LAST-REF  -DATE   __   GE/LE)    _____________
DATASET-ORGANIS.  EQ             ____           SAM/PAM/BDAM/ISAM/VSAM/EXCP
```

The table below briefly describes each of the DEFRAG fields on the screen.

Parameter	Description
VOLSER	Type the volume serial of the volume you want to defragment. This volser is passed to DEFRAG through the DYNAM (volser) argument.
FRAGM-IX	The fragmentation index is a measure of how much of the volume is fragmented. The DEFRAG process ends when the fragmentation index reaches the specified value. For simplicity, the FRAGM-IX field accepts a value of **1, 2, or 3** to indicate the most consolidation (1) or less consolidation (3).

Parameter	Description
MAXMOVE	MAXMOVE is a one- to six-digit number that specifies the number of tracks. This parameter controls how extensively you want DEFRAG to process the volume. More passes and assembling larger amounts of contiguous tracks will make the volume unavailable to other processing for a longer period of time, but will achieve the best results. Fewer passes will limit the down time, but will achieve only some space reorganization. The default is to assemble the largest possible free space areas. MAXMOVE can limit the amount of data movement, but may also reduce the size of the free space areas.
EXCLUDE	Type one or more fully or partially qualified data set names that are excluded from the DEFRAG processing.

The following arguments identify which data sets to include in the DEFRAG process.

Parameter	Description
CREATION DATE	You can filter to data sets that are based on the creation date of the data set. The date is a Julian date, which is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count. For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, **`*,-5`** means data sets five days older than today. Choose one of the following operators: • LT means "less than". • GT means "greater than".
LAST REF DATE.	You can filter based on the last referenced date of the data set. The date is a Julian date, which is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count. For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, **`*,-5`** means datasets five days older than today. Choose one of the following operators: • GE means "greater than or equal to". • LE means "less than or equal to".
DATASET ORGANIZATION	You can filter based on the type of data set organization you want. Valid values are: • *SAM*. All sequential data sets. • *PAM*. All partitioned data sets (PDS, PDSE). • *BDAM*. All direct access data sets • *ISAM*. All indexed sequential data sets. • *VSAM*. All VSAM types. • *EXCP*. Any data sets not allocated or accessed using other methods.

The fields on the screen relate to the parameters in the JCL for the DEFRAG utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS010), which contains the PARM statement, and *.*.ISPSLIB(AWBS011), which contains the DEFRAG statement.

```
//ADRDSSU EXEC PGM=ADRDSSU,REGION=0M,     <--AWBS010
 //             PARM='TYPRUN=NORUN'
 //SYSPRINT DD  SYSOUT=*
 //SYSIN    DD  *
  DEFRAG FRAGI(3) -                      <--AWBS011
         EXCLUDE(LIST(DEV01.*)) -
         BY(LIST( (CREDT LT *,-10) (REFDT GE 2002031) (DSORG EQ VSAM))) -
         DYNAM(MYDISK)
 /*
 //
```

For more information on the DEFRAG command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

For more information on the filtering options, refer to same IBM documentation as for DEFRAG, but in particular, Chapter 2, *Filtering-Choosing the Data Sets You Want Processed*.

Option 2 - Move/Copy DSN

The COPY command is used to copy data among volumes. If you specify MOVE, the input data sets are deleted after a successful copy. You do not need to specify any input volsers for this option. The data sets are selected by name, not by the volsers used to contain the data.

When you choose option 2, **Move/Copy DSN**, on the ADRDSSU Functions menu (U.2.2 from the SAW main menu), the following screen displays:

```
----------------------------- DASD Utilities ---------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

Enter selection: B      ( B = BACKGROUND)             specify PARM option: N

This function will copy or move all specified DASD data sets found in catalog

(except MIGRAT) to selected output volumes.

FUNCTION: MOVE  <== COPY/MOVE (MOVE will recatalog datasets to output volumes)

INCL-DSN: MYDSNS_____________________________________  <= DSN in ADRDSSU syntax

EXCL-DSN: _____________________________________  <= DSN in ADRDSSU syntax

VOL1: sys002 VOL2: sys003 VOL3: ______ VOL4: ______ VOL5: ______ VOL6: ______

ALLDATA(*): Y   ALLEXCP: Y    PROCESS(UNDEFINEDSORG): Y   SPHERE: Y

BYPASSACS: myuserid.playpen.*_____________________  <= DSN in ADRDSSU syntax

STORCLAS : abc_____   MGMTCLAS : ________

FILTER-OPTION(S):   leave >BLANK< to prevent filtering

CREATION  -DATE   LT  (LT/GT     *,-10___________  e.g.: *,-1  means older 1 day

LAST-REF  -DATE   LE   GE/LE)    *,-10___________

DATASET-ORGANIS.  EQ             vsam            SAM/PAM/BDAM/ISAM/VSAM/EXCP
```

The table below briefly describes the fields on this screen.

Parameter	Description
Specify PARM option	If you type Y in this field to specify parameter options, you may want to choose TYPRUN=NORUN. This causes COPY or MOVE to report the list of items that were selected, without moving any data. For more information on the "Specify PARM option" field, refer to “PARM option” on page 179.
INCL-DSN	Specify partially or fully qualified names of data sets to include in the copy.
EXCL-DSN	Specify partially or fully qualified names of data sets to exclude from the copy.
VOLn	Specify one or more output volumes for the copy. The additional volumes in the list provide space for data sets that might not fit on the first volume.

Parameter	Description
ALLDATA(*)	Type **Y** to indicate that all allocated space is to be copied for sequential data sets. Otherwise, type N.
ALLEXCP(*)	Type **Y** to indicate that all allocated space is copied, but there may be exceptions based on entries you make in other options. Otherwise, type N. The IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424), contains much more information about exceptions. Refer to that document for additional details.
PROCESS (UNDEFINEDSORG)	Type **Y** to allow data sets with an undefined organization to be copied to unlike devices. Otherwise, type N.
SPHERE	Type **Y** to copy all associated AIX clusters for a VSAM cluster. Otherwise, type N.
BYPASSACS (dsn)	Type a data set name to skip automatic class selection for this input dsn.
STORCLASS	Specify the storage class that will be used to replace the source class.
MGMTCLASS	Specify the management class that will be used to replace the source class.
CREATION DATE	You can filter based on the creation date of the data set. The format is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count. For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, ***,-5** means data sets five days older than today. Choose one of the following operators: • LT means "less than". • GT means "greater than".
LAST REF DATE.	You can filter based on the last referenced date of the data set. The format is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count. For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, ***,-5** means data sets five days older than today. Choose one of the following operators: • GE means "greater than or equal to". • LE means "less than or equal to".

Parameter	Description
DATASET ORGANIZATION	You can filter based on the type of data set organization you want. Valid values are: • *SAM*. All sequential data sets. • *PAM*. All partitioned data sets (PDS, PDSE). • *BDAM*. All direct access data sets • *ISAM*. All indexed sequential data sets. • *VSAM*. All VSAM types. • *EXCP*. Any data sets not allocated or accessed using other methods. The "EQ" listed in this field means "equal to".

The fields on the screen relate to the parameters in the JCL for the COPY utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which contains the EXEC statement, and *.*.ISPSLIB(AWBS012), which contains the COPY statement.

```
//ADRDSSU EXEC PGM=ADRDSSU,REGION=0M,      <--AWBS010
 //SYSPRINT DD  SYSOUT=*
 //SYSIN    DD  *                          <--AWBS012
  COPY DATASET(INCLUDE(MYDSNS) -
       BY( (CREDT LT *,-10) (REFDT LE *,-10) (DSORG EQ VSAM)))-
       OUTDY((SYS002),(SYS003)) -
       STORCLAS(ABC) -
       BYPASSACS(DEV01.WORK.*) -
       ALLDATA(*) ALLEXCP PROCESS(UNDEFINEDSORG) -
       WRC SPHERE  RECATALOG(*) DELETE
 /*
 //
```

For more information on the COPY command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

For more information on the filtering options, refer to same IBM documentation mentioned above, but in particular, Chapter 2, *Filtering-Choosing the Data Sets You Want Processed*.

Option 3 - Move/Copy VOL

The COPY command is used to copy data among volumes. If you specify MOVE, the input data sets are deleted after a successful copy. With option 3, **Move/Copy VOL**, you identify specific volumes (volsers) and copy/move some or all of the datasets stored on the volume. You must specify the volsers of the input and output volumes.

When you choose option 3, **Move/Copy VOL**, on the ADRDSSU Functions menu (U.2.3 from the SAW main menu), the following screen displays:

```
----------------------------- DASD Utilities ---------------------------------

COMMAND ==>

System: RS02RS02 Local Administrative Dataplex: RSDPLEX

Enter selection: B      ( B = BACKGROUND)             specify PARM option: N

This function will copy/move data sets from INPUT-VOLUMES to OUTPUT-VOLUMES.

FUNCTION: MOVE  <== COPY/MOVE (MOVE=RECATALOG on target and DELETE on source)

INPUT -VOLUME(S): sys002   sys003   ______   ______   ______   ______   ______

OUTPUT-VOLUME(S): sys012   sys013   ______   ______   ______   ______   ______

ALLDATA(*): Y   ALLEXCP: Y   PROCESS(UNDEFINEDSORG): Y   ALLMULTI: N

FILTER-OPTION(S):   leave >BLANK< to prevent filtering

INCL-DSN : MYDSNS_____________________________________  <== DSN in ADRDSSU syntax

EXCL-DSN : pdgolds.playpen.*__________________________  <== DSN in ADRDSSU syntax

BYPASSACS: systemp.*__________________________________  <== DSN in ADRDSSU syntax

STORCLAS : abc_____    MGMTCLAS: ________

CREATION  -DATE   GT  (LT/GT     *,-5__________  e.g.: *,-1  means older 1 day

LAST-REF  -DATE   LE   GE/LE)    *,-10_________

CATALOG           EQ             yes             YES/NO

DATASET-ORGANIS.  EQ             pam_            SAM/PAM/BDAM/ISAM/VSAM/EXCP
```

The table below briefly describes the fields on this screen.

Parameter	Description
Specify PARM option	If you type Y in this field to specify parameter options, you may want to choose TYPRUN=NORUN. This causes COPY or MOVE to report the list of items that were selected, without moving any data. For more information on the "Specify PARM option" field, refer to “PARM option” on page 179.
INCL-DSN	Specify partially or fully qualified names of data sets to include in the copy.
EXCL-DSN	Specify partially or fully qualified names of data sets to exclude from the copy.
VOLn	Specify one or more output volumes for the copy. The additional volumes in the list provide space for data sets that might not fit on the first volume.

Parameter	Description
ALLDATA(*)	Type **Y** to indicate that all allocated space is to be copied for sequential data sets. Otherwise, type N.
ALLEXCP(*)	Type **Y** to indicate that all allocated space is copied, but there may be exceptions based on entries you make in other options. Otherwise, type N. The IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424), contains much more information about exceptions. Refer to that document for additional details.
PROCESS (UNDEFINEDSORG)	Type **Y** to allow data sets with an undefined organization to be copied to unlike devices. Otherwise, type N.
ALLMULTI	Type **Y** to copy data sets with multi-volume space allocation if part of the data set resides on one of the input volumes. Type **N** to copy data sets that are fully contained by the specified volumes.
BYPASSACS (dsn)	Type a data set name to skip automatic class selection for this input dsn.
STORCLASS	Specify the storage class that will be used to replace the source class.
MGMTCLASS	Specify the management class that will be used to replace the source class.
CREATION DATE	You can filter based on the creation date of the data set. The format is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count.) For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, **`*,-5`** means data sets five days older than today. Choose one of the following operators: • LT means "less than". • GT means "greater than".
LAST REF DATE	You can filter based on the last referenced date of the data set. The format is YYYYDDD, where YYYY is the four-digit year and DDD is the three-digit day-of-the-year count.) For example, April 1, 2002 is the 91st day of the year, so it would be written as 2002091. You can also specify a date relative to the run date of the job, expressed as an asterisk (*) plus or minus a number of days. For example, **`*,-5`** means data sets five days older than today. Choose one of the following operators: • GE means "greater than or equal to". • LE means "less than or equal to".
CATALOG	Type Y to catalog any data set allocated by the copy process.

Parameter	Description
DATASET ORGANIZATION	You can filter based on the type of data set organization you want. Valid values are: • *SAM*. All sequential data sets. • *PAM*. All partitioned data sets (PDS, PDSE). • *BDAM*. All direct access data sets • *ISAM*. All indexed sequential data sets. • *VSAM*. All VSAM types. • *EXCP*. Any data sets not allocated or accessed using other methods. The "EQ" listed in this field means "equal to".

The fields on the screen relate to the parameters in the JCL for the COPY utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which contains the EXEC statement, and *.*.ISPSLIB(AWBS013), which contains the COPY statement.

```
//ADRDSSU EXEC PGM=ADRDSSU,REGION=0M,  <--AWBS010

 //SYSPRINT DD  SYSOUT=*

  //SYSIN    DD  *                              <--AWBS013

  COPY DATASET(INCLUDE(MYDSNS)-

               EXCLUDE(DEV01.WORK.*)-

      BY( (CREDT GT *,-5) (REFDT LE *,-10) (CATLG EQ YES) (DSORG EQ PAM)))-

       LIDY((SYS002),(SYS003))-

       OUTDY((SYS012),(SYS013))-

       STORCLAS(ABC) -

       BYPASSACS(SYSTEMP.*) -

       ALLDATA(*) ALLEXCP PROCESS(UNDEFINEDSORG) WRC  RECATALOG(*) DELETE
         PURGE

 /*
 //
```

For more information on the COPY command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

For more information on the filtering options, refer to same IBM documentation mentioned above, but in particular, Chapter 2, *Filtering-Choosing the Data Sets You Want Processed*.

Option 4 - Copy Volume

This COPY command is used to copy the contents of an entire volume to another volume. You must specify the input and output volsers.

When you choose option 4, **COPY VOLUME**, on the ADRDSSU Functions menu (U.2.4 from the SAW main menu), the following screen displays:

```
----------------------------- DASD Utilities ---------------------------------

COMMAND ==>

System: RSO2RSO2 Local Administrative Dataplex: RSDPLEX


Enter selection: B      ( B = BACKGROUND)            specify PARM option: N

This function will copy all data from the INPUT-VOLUME to the OUTPUT-VOLUME


FUNCTION     : COPY FULL

INPUT -VOLUME: sysO3_

OUTPUT-VOLUME: sysO13

COPY VOLID   : N  (Copy volume serial of INPUT volume to OUTPUT volume  Y / N )

PURGE        : Y  (Overlay unexpired data sets on the    OUTPUT volume  Y / N )
```

The table below briefly describes the fields on this screen.

Parameter	Description
INPUT-VOLUME	Specify the volser for the input volume.
OUTPUT-VOLUME	Specify the volser for the output volume.
COPY VOLID	Indicate with Y or N as to whether you want the volser of the input volume to be written over the volser of the output volume. Carefully consider your use of COPY VOLID.
PURGE	Indicate with Y or N whether the unexpired data sets on the output volume can be overlaid, meaning that they will be deleted and replaced by data from the input volume. If PURGE is set to N, but the output volume has unexpired data sets, the COPY will fail.

The fields on the screen relate to the parameters in the JCL for the COPY utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which contains the EXEC statement, and *.*.ISPSLIB(AWBS015), which contains the COPY statement.

```
//ADRDSSU EXEC PGM=ADRDSSU,REGION=OM,  <----AWBSO10

 //SYSPRINT DD  SYSOUT=*

  //SYSIN    DD  *                              <----AWBSO15
```

```
 COPY FULL -
      INDY(SYS03) OUTDY(SYS013)  PURGE
/*
//
```

For more information on the COPY command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

Option 5 - CONVERTV

The CONVERTV command converts volumes to or from an SMS-managed state, which refers to Storage Management Subsystem (SMS). Specify the volser of one or more volumes, then indicate whether you want to convert them from non-SMS to SMS management, or from SMS to non-SMS management.

When you choose option 5, **CONVERTV**, on the ADRDSSU Functions menu (U.2.5 from the SAW main menu), the following screen displays:

```
----------------------------- DASD Utilities ---------------------------------

COMMAND ==>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Enter selection: B      ( B = BACKGROUND)             specify PARM option: Y

CONVERTV to  SMS___   <= SMS/NONSMS

VOLUME(S): myvol1  myvol2  ______  ______  ______  ______  ______

ALLMULTI: Y     PREPARE: Y     REDETERMINE: Y        <= enter Y or N

TEST: Y                                              <= enter Y or N
```

The table below briefly describes the fields on this screen.

Parameter	Description
CONVERT to	Enter one of these values: • SMS. Converts volumes from a non-SMS state to SMS management. • NONSME. Converts volumes that are SMS-managed to a non-SMS state.
VOLUME(S)	Type the volsers of the volumes you want to convert.
ALLMULTI	Type **Y** to process data sets with multi-volume space allocation if part of the data set resides on one of the input volumes. Type **N** to process data sets that are fully contained by the specified volumes.
PREPARE	Type Y or N to indicate whether you want to set up conditions for converting a non-SMS volume to SMS, without actually converting the data. Once in this state, new data sets cannot be created until CONVERT SMS has been run. CONVERT NONSMS resets the PREPARE state. PREPARE is only valid when converting to SMS.

Parameter	Description
REDETERMINE	Type Y or N to indicate whether to reset class information that specifies classnames that are no longer valid. This can occur if a volume was previously SMS managed, then converted to non-SMS, and changes were made to the ACS classes. REDETERMINE is only valid when converting to SMS.
TEST	Type Y to specify the equivalent of "TYPRUN=NORUN". CONVERTV will determine if the volume can be converted.

The fields on the screen relate to the parameters in the JCL for the CONVERTV utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is a combination of *.*.ISPSLIB(AWBS283), which contains the EXEC statement, and *.*.ISPSLIB(AWBS017), which contains the CONVERTV statement.

```
//ADRDSSU EXEC PGM=ADRDSSU,REGION=0M,        <--AWBS010

 //SYSPRINT DD  SYSOUT=*

 //SYSIN   DD  *                             <--AWBS017

  CONVERTV SMS ALLMULTI PREPARE REDET TEST -
  DYNAM((MYVOL1),(MYVOL2))
 /*

 //
```

For more information on the CONVERTV command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

Option 6 - Special Backup

The DUMP command is used to make a copy of an entire volume, which you specify in the VOLSER field. When you choose option 6, **Special Backup**, on the ADRDSSU Functions menu (U.2.6 from the SAW main menu), the following screen displays:

```
 ----------------------------- Backup -------------------------------------------

COMMAND ==>                                                  SCROLL ===> CSR

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


Execute special backup for volser


VOLSER : ??????         <== Enter volume-serial for backup

UNIT   : ______         <== Enter unit-type

RETPD  : 030            <== Enter backup retention period


Backup-Dsn will be generated to => AWB.AWB043F.??????.R030.D02112
```

The table below briefly describes the fields on this screen.

Parameter	Description
VOLSER	Type the volser of the volume you want to copy.
UNIT	Currently, an entry in this field does not affect the JCL.
RETPD	Type a number for the retention period, which specifies how many days until the data set is considered expired. The default is 30. The RETPD is also used to select between DASD backup, for values of 30 days or less, and TAPE backup, for values greater than 30 days.

The DSN that is built includes the volser, the RETPD value in the format `.Rnnn`, and today's Julian date as `.Dyyddd`. The unit type and HLQ are obtained from SAW installation values.

The fields on the screen relate to the parameters in the JCL for the DUMP utility. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS252), which contains the DUMP statement.

```
//*******************************************************************
 //* SPECIAL BACKUP FOR VOLSER = MYDISK
 //*******************************************************************
 //ADRDSSU EXEC PGM=ADRDSSU,REGION=0M         <--start of AWBS252

 //SYSPRINT DD  SYSOUT=*
 //DISK     DD  DISP=SHR,VOL=SER=SYS003,UNIT=SYSALLDA
 //TAPE     DD  DSN=AWB.AWB043F.SYS003.R030.D02064,
 //             DISP=(,CATLG,DELETE),SPACE=(CYL,(500,500),RLSE),
 //             DCB=AWB.AWB000F,
 //             UNIT=(SYSDA,4)
 //SYSIN    DD  DSN=AWB.WRK0110.ISPSLIB(AWBS466),DISP=SHR
 /*
    DUMP FULL IDD(DISK) ODD(TAPE) COM
00240000

 //*******************************************************************
 //* CHECK IF BACKUP HAS ENDED CORRECT          (RC=0)
 //*******************************************************************
 //BUMM1   EXEC PGM=AWB013P,COND=(0,EQ,ADRDSSU)
 //STEPLIB  DD  DSN=AWB.WRK0110.LOAD,DISP=SHR
 //DD1      DD  DSN=*.ADRDSSU.TAPE,DISP=(OLD,DELETE,DELETE)
 //SYSPRINT DD  SYSOUT=*
 //*******************************************************************
 //* RESET BACKUP-TIMESTAMP IN DASD-DB
 //*******************************************************************
 //RESET   EXEC PGM=AWBD03P,PARM='/D,MYDISK,RSDPLEX'
 //STEPLIB  DD  DSN=AWB.WRK0110.LOAD,DISP=SHR
 //SYSPRINT DD  SYSOUT=*
 //DASDDB   DD  DSN=SMPSHR.AWB001F,DISP=SHR
 //DASDLOCK DD  DSN=SMPSHR.AWB002F,DISP=SHR     <--end of AWBS252
 //
```

For more information on the DUMP command, refer to the IBM documentation, *DFSMSdss Storage Administration Reference* (SC35-0424). To read this book, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/DGT2R210*.

Using Device Support Facilities (DSF)

To use the Device Support Facilities, choose option 3, **DSF**, on the Utilities menu (U.3 from the SAW main menu), and press Enter. The following screen displays:

```
----------------------------- ICKDSF Functions -------------------------------

OPTION ===>

System: SYSNAME1       Dataplex: MYDPLEX      Mode: Local Administrative


   1  INIT-3380        INIT MVS-DISK unit type 3380 model-D/-J or standard

   2  INIT-3380E       INIT MVS-DISK unit type 3380 model-E

   3  INIT-3380K       INIT MVS-DISK unit type 3380 model-K

   4  INIT-3390-01     INIT MVS-DISK unit type 3390 model-01

   5  INIT-3390-02     INIT MVS-DISK unit type 3390 model-02

   6  INIT-3390-03     INIT MVS-DISK unit type 3390 model-03

   7  INIT-3390-09     INIT MVS-DISK unit type 3390 model-09

   8  INIT-3390-Opt    INIT MVS-DISK unit type 3390 Optical

   9  INIT DISK        INIT MVS-DISK (no special unit type)

  10  CONTROL          Clear WRITE INHIBITED STOR-CONTROL or PATH FENCE STATUS

  11  INSPECT          INSPECT A VOLUME OR REASSIGN DEFECTIVE TRACKS

  12  REFORMAT         RENAME A VOLUME

  13  ANALYZE          ANALYZE A VOLUME FOR ERRORS

  14  BUILDIX          BUILD or REBUILD VTOC-INDEX
```

Each option is part of a command that then builds a job using four skeletons.

1. Member AWBS299 in the ISPSLIB builds the job step.
2. Member AWBS277 in the ISPSLIB builds the EXEC statement.
3. The specific directives are built from a unique skeleton that is described in the JCL excerpts in this section.
4. Member AWBS241 in the ISPSLIB builds the closing statement.

Each of the ADRDSSU Functions is described in the rest of this section.

Options 1 - 9, INIT

The first nine options on the ICKDSF Functions menu, which are all INIT commands, use the same screen. The JCL that is generated for each of these options is slightly different based on the device type. The INIT command is used to initialize volumes. The initialization process sets up internal structures.

When you choose options 1 through 9 on the ICKDSF Functions menu (U.3.1 through U.3.9 from the SAW main menu), the next screen displays.

```
----------------------------- ICKDSF Functions --------------------------------
COMMAND ===>
System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

ENTER SELECTION: B      ( B = BACKGROUND)

IODELAY      : Y            <== Activate IODELAY option Y or N
PERIO        : 20__         <== number of I/Os for one time interval
MILLI        : 100_         <== milliseconds delay time
INSTALL      : N            <== Execute INSTALL-Parameter Y or N  SETMODE: ____
INIT   VOLSER: ______       <== Enter new volume-serial
VERIFY VOLSER: ______       <== Enter old volume-serial or leave blank
UNIT-ADR     : ____         <== Enter UCB number
DEVICETYPE   : 3380__       <== Enter device-type of volume-serial
INDEX        : 000,1,014_   <== Enter vtoc-index location
VTOC         : 001,0,090_   <== Enter vtoc location
VALIDATE     : N            <== Enter Y or N
STORAGEGROUP : Y            <== Enter Y or N to indicate DFSMS managed or not
BOOTSTRAP    : N            <== Enter Y or N to write a BOOTSTRAP record or not
ANALYZE      : N            <== Enter Y or N to activate additional ANALYZE cmd
```

The example screen shows default settings for option 1, **INIT-3380**. The fields on this screen are the same for options 1 - 9. The table below briefly describes the fields on this screen.

Parameter	Description
IODELAY	Type Y or N to indicate whether to specify some pacing arguments that control how long the device is active. The high level of I/O required to run some ICKDSF functions can degrade the performance observed by other users of the system. The default is Y.
PERIO	Specify the number of I/Os issued before waiting to allow other processing. The default is 20. **Note:** This option is not valid if there is an N in the IODELAY field.
MILLI	Specify the length of the wait interval in milliseconds. For example, issue 20 I/Os, based on the PERIO field, and then wait 100 milliseconds before resuming. The default is 100. **Note:** This option is not valid if there is an N in the IODELAY field.
INSTALL	Type **Y** if you need to run INSTALL on the volume. INSTALL prepares the tracks for writing. You must run INSTALL if the volume was just installed or replaced on the system.
INIT VOLSER	Type the new name for the volume.

Parameter	Description
VERIFY VOLSER	Type the name of an existing volume if the volume is already initialized and you are reformatting. This ensures that you do not overwrite the wrong volume.
UNIT-ADR	You must specify a unit address in the format of CCuu, where CC is the channel and uu is the unit number. The value is expressed in hexadecimal digits.
DEVICETYPE	Specify the device type, either 3380 or 3390, if it is not already listed.
INDEX	The index field automatically displays the starting values for cylinder, head, and extent. This specifies the starting location and the size of the index.
VTOC	The Volume Table of Contents (VTOC) field automatically displays the starting values for cylinder, head, and extent. This specifies the starting location and the size of the VTOC.
VALIDATE	Type Y or N to indicate whether you want to check the home address and record number 0 of each track. This validation process checks for device errors that would prevent processing data sets later.
STORAGEGROUP	Type Y or N to indicate whether you want the volume to be managed by DFSMS.
BOOTSTRAP	Type Y or N to indicate whether a new bootstrap record (IPL) should be written.
ANALYZE	Type Y or N to indicate that you want to inspect the volume for errors if the INIT completes successfully. When you type Y in the ANALYZE field, an additional screen displays with more fields for you to consider in setting up the ANALYZE command. This screen is described in the next section.

If you type **Y** in the ANALYZE field on the ICKDSF Functions menu, you need to specify additional arguments for the ANALYZE command. The ICKDSF Analyze screen appears.

```
----------------------------- ICKDSF ANALYZE ---------------------------------
COMMAND ===>
System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

ENTER SELECTION: B      ( B = BACKGROUND)

Execution mode :OFFLINE

IODELAY       : Y           <== Activate IODELAY option Y or N
PERIO         : 20__        <== number of I/Os for one time interval
MILLI         : 100_        <== milliseconds delay time
ANALYZE VOLSER: MYDISK      <== Enter volume-serial
DEVICETYPE    : 3380__      <== Enter device-type of volume-serial
UNIT-ADR      : 1234        <== Enter UCB number (for OFF-LINE operation only)
SCAN ---------: Y           <== Enter Y or N to activate data verification test
     --- ALL  : Y           <== Enter Y or N to scan all cylinder
     --- SPEED: Y           <== Enter Y or N to scan one cylinder at a time
ALLCHPID      : Y           <== Enter Y or N to process all CHPIDs
DRIVETEST     : Y           <== Enter Y or N to process drive test function
```

If you like these settings, press Enter. Otherwise, change the information in the fields. For more information on these fields, refer to "Option 13 - Analyze" on page 203.

The fields on the screen relate to the parameters in the JCL for the INIT command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS277), which contains the EXEC statement, HLQ.ISPFLIB.AWBS278, which contains the INIT command, including the ANALYZE arguments, and the closing statement found in *.*.ISPSLIB(AWBS241).

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M              <---- AWBS277
 //SYSPRINT DD  SYSOUT=*
 //SYSIN    DD  *
  IODELAY SET PERIO(20) MILLI(100)                   <--AWBS278
  INIT UNIT(ABCD) DEVTYPE(3380) VOLID(MYDISK) SG -
            NOVERIFY -
            NOVALIDATE -
            VTOC(001,2,200) INDEX(000,1,20) -
            PURGE MAP
    IF LASTCC LT 8 -
       THEN ANALYZE UNITADDRESS(1234) SCAN ALL SPEED -
            ALLCHP  DRIVE
  IODELAY RESET
 /*                                                 <--AWBS241
 //
```

For more detailed information on the INIT command, refer to the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Option 10 - Control

The CONTROL command is used to reset various subsystem conditions. When you choose option 10, **CONTROL**, on the ICKDSF Functions menu (U.3.10 from the SAW main menu), the following screen displays:

```
----------------------------- ICKDSF CONTROL ---------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: B      ( B = BACKGROUND)


VOLSER     : sys045       <== Enter volume-serial

DEVICETYPE : 3380__       <== Enter device-type of volume-serial


select one of the following:


WRITE INHIBITED: Y        <== Y or N

PATH FENCE STAT: _        <== Y or N
```

The table below briefly describes the fields on this screen.

Parameter	Description
VOLSER	Specify the volser of the volume you are resetting.
DEVICETYPE	Type a device type associated with the volume.
WRITE INHIBITED	Type **Y** or **N** to indicate whether to reset the write inhibited state on the device. If you type Y in this field, you must type N in the Path Fence Stat field. You cannot have Y in both fields.
PATH FENCE STAT	Type **Y** or **N** to indicate whether to reset the fence path that was preventing access to the device. Do this only after the error that caused the fence status (hardware failure) has been corrected.

The fields on the screen relate to the parameters in the JCL for the INIT command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS279), which contains the CONTROL statement.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
 CONTROL ALLOWWR DDNAME(DD1)            <--AWBS279
/*
//DD1      DD  UNIT=SYSALLDA,DISP=SHR,VOL=SER=SYS045
//
```

For more detailed information on the CONTROL command, refer to the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Option 11 - Inspect

The INSPECT command is used to test a device for errors and, if necessary, reassign the data to an alternate track. In the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC3-0033-23), it states "Before using the INSPECT command, you should first make sure there are no hardware problems. It is recommended that you issue ANALYZE DRIVETEST NOSCAN before any INSPECT operation." You may want follow this advice before you use the INSPECT command.

When you choose option 11, **INSPECT**, on the ICKDSF Functions menu (U.3.11 from the SAW main menu), the following screen displays:

```
---------------------------- ICKDSF INSPECT ---------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: B      ( B = BACKGROUND)


IODELAY   : Y            <== Activate IODELAY option Y or N

PERIO     : 20__         <== number of I/Os for one time interval

MILLI     : 100_         <== milliseconds delay time

VOLSER    : sys055       <== Enter volume-serial

DEVICETYPE: 3380__       <== Enter device-type of volume-serial

UNIT-ADR  : 503          <== Enter UCB number  of volume-serial


select one of the following:


            _ Conditional assignment of alternate tracks (ON-LINE mode)

            s List defective tracks on volume (no alternate TRK assignment)
```

The table below briefly describes the fields on this screen.

Parameter	Description
IODELAY	Type Y or N to indicate whether to specify some pacing arguments that control how long the device is active. The high level of I/O required to run some ICKDSF functions can degrade the performance observed by other users of the system. The default is Y.
PERIO	Specify the number of I/Os issued before waiting to allow other processing. The default is 20. **Note:** This option is not valid if there is an N in the IODELAY field.
MILLI	Specify the length of the wait interval in milliseconds. For example, issue 20 I/Os, based on the PERIO field, and then wait 100 milliseconds before resuming. The default is 100. **Note:** This option is not valid if there is an N in the IODELAY field.
VOLSER	Type the name of the volume you want to inspect.
DEVICETYPE	Specify the device type, either 3380 or 3390, if it is not already listed.

Parameter	Description
UNIT-ADR	You must specify a unit address in the format of CCuu, where CC is the channel and uu is the unit number. The value is expressed in hexadecimal digits.
Conditional assignment of alternate tracks	Type S to select this option to reassign tracks of known defective areas. **Note:** If you choose this option, you must leave the "List defective tracks on volume" field blank.
List defective tracks on volume	Type S to inspect the volume for errors. **Note:** If you choose this option, you must leave the "Conditional assignment of alternate tracks" field blank.

The fields on the screen relate to the parameters in the JCL for the INSPECT command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS257), which contains the INSPECT statement.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M

 //SYSPRINT DD  SYSOUT=*

 //SYSIN    DD  *                          <--AWBS257

  IODELAY SET PERIO(20) MILLI(100)

  INSPECT DDNAME(DD1) NOVERIFY NOCHECK NOASSIGN ALLTRACKS MAP

  IODELAY RESET

 /*

 //DD1      DD  VOL=SER=SYS055,UNIT=SYSALLDA,DISP=OLD

 //
```

If you type **S** in the "Conditional assignment of alternate tracks" field, another screen appears where you can specify additional parameters for this option.

```
----------------------------- INSPECT Function -------------------------------

COMMAND ==>

System: SYSNAME1      Dataplex: MYDPLEX      Mode: Local Administrative


ENTER SELECTION: B      ( B = BACKGROUND)


The assignment of alternate tracks depends on the result of surface checking.

Data on each specified track is copied to an alternate track if the track is

defective, or written back to the primary track if the track is not defective.


VOLSER     : SYS055       <== Enter volume-serial

DEVICETYPE : 3380         <== Enter device-type of volume-serial

UNIT-ADR   : 503          <== Enter UCB number  of volume-serial


                cyl    head     cyl    head     cyl    head     cyl    head
TRACKS     :(( 1_____ 1___ ) ( 1_____ 2___ ) ( 1_____ 3___ ) ( 1_____ 4___ )
             ( _____ ____ ) ( _____ ____ ) ( _____ ____ ) ( _____ ____ )
             ( _____ ____ ) ( _____ ____ ) ( _____ ____ ) ( _____ ____ )
             ( _____ ____ ) ( _____ ____ ) ( _____ ____ ))
             (cyl or head could be specified either in decimal or in hex)


CHECK      : 3  <== Number of retries performed per track
```

On this screen, you are asked to enter a set of track addresses (Cylinder, Head) to be re-assigned to an alternate track. The CHECK parameter tells INSPECT to read the track "n" times, based on the number you enter for the CHECK field, to determine if it is defective, and only reassign defective tracks. An example of this JCL is shown below.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *
 IODELAY SET PERIO(20) MILLI(100)            <--AWBS256
 INSPECT DDNAME(DD1) NOVERIFY CHECK(3) -
         TRACKS( -
                (1,1)  -
                (1,2)  -
                (1,3)  -
                (1,4)  -
               ) ASSIGN MAP
 IODELAY RESET
/*
//DD1      DD  VOL=SER=MYDISK,UNIT=SYSALLDA,DISP=OLD
//
```

For more detailed information on the INSPECT command, refer to the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Option 12 - Reformat

The REFORMAT command is used to change volume structure information, such as the volser or VTOC. You can rename a volume on the ICKDSF Reformat screen. However, this does not change the name in the VTOC or in catalogs that have the current volser.

Note: The REFORMAT command is more of a "rename" command. To completely rebuild a volume, use the INIT command. Refer to “Options 1 - 9, INIT” on page 194 for more information.

When you choose option 12, **Reformat**, on the ICKDSF Functions menu (U.3.12 from the SAW main menu), the following screen appears.

```
---------------------------- ICKDSF REFORMAT --------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: B      ( B = BACKGROUND)


Attention: Existing VTOC-Index and VVDS data set will not be renamed.


VOLID  VOLSER: volm01       <== Enter new volume-serial

VERIFY VOLSER: oldv97       <== Enter old volume-serial

UNIT-ADR     : 305_         <== Enter UCB number
```

The table below briefly describes the fields on this screen.

Parameter	Description
VOLID VOLSER	Type the new name you are assigning to the volume.
VERIFY VOLSER	Type the volser of the current volume that you are going to rename.
UNIT-ADR	Type the unit address of the current volume that you are going to rename.

The fields on the screen relate to the parameters in the JCL for the INIT command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS280), which contains the REFORMAT statement.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M
//SYSPRINT DD  SYSOUT=*
//SYSIN    DD  *                                          <--AWBS280
  REFORMAT UNITADDRESS(305) VOLID(VOLM01) VERIFY(OLDV97)
/*
//
```

For more detailed information on the REFORMAT command, refer to the IBM documentation, *Device Support Facilities: User’s Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Option 13 - Analyze

The ANALYZE command is used to test the device basic functions and read tracks to ensure that data sets are still readable. This is the same screen that is described in “Options 1 - 9, INIT” on page 194. It is listed as a separate item on the ICKDSF Functions menu, which is described below.

When you choose option 13, **ANALYZE**, on the ICKDSF Functions menu (U.3.13 from the SAW main menu), the following screen displays.

```
----------------------------- ICKDSF ANALYZE ---------------------------------

COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX


ENTER SELECTION: B      ( B = BACKGROUND)


Execution mode :OFFLINE


IODELAY       : Y           <== Activate IODELAY option Y or N

PERIO         : 20__        <== number of I/Os for one time interval

MILLI         : 100_        <== milliseconds delay time

ANALYZE VOLSER: MYDISK      <== Enter volume-serial

DEVICETYPE    : 3380__      <== Enter device-type of volume-serial

UNIT-ADR      : 1234        <== Enter UCB number (for OFF-LINE operation only)

SCAN ---------: Y           <== Enter Y or N to activate data verification test

     --- ALL  : Y           <== Enter Y or N to scan all cylinder

     --- SPEED: Y           <== Enter Y or N to scan one cylinder at a time

ALLCHPID      : Y           <== Enter Y or N to process all CHPIDs

DRIVETEST     : Y           <== Enter Y or N to process drive test function
```

The table below describes the fields on this screen.

Parameter	Description
IODELAY	Type Y or N to indicate whether to specify some pacing arguments that control how long the device is active. The high level of I/O required to run some ICKDSF functions can degrade the performance observed by other users of the system. The default is Y. If you type an "N" in this field, you cannot enter values in the PERIO and MILLI fields.
PERIO	Specify the number of I/Os issued before waiting to allow other processing. The default is 20. **Note:** This option is not valid if there is an N in the IODELAY field.

Parameter	Description
MILLI	Specify the length of the wait interval in milliseconds. For example, issue 20 I/Os, based on the PERIO field, and then wait 100 milliseconds before resuming. The default is 100. **Note:** This option is not valid if there is an N in the IODELAY field.
ANALYZE VOLSER	Type the volser of the volume you want to test.
DEVICETYPE	Specify the device type, either 3380 or 3390, if it is not already listed.
UNIT-ADR	You must specify a unit address in the format of CCuu, where CC is the channel and uu is the unit number. The value is expressed in hexadecimal digits.
SCAN	Type Y or N to indicate whether you want to verify that data is readable. If you type Y, you can then enter variables in the ALL and SPEED fields.
ALL	Type **Y** to scan all cylinders on the volume.
SPEED	Type **Y** to read a cylinder at a time, which is faster but may impact performance for other users. Type **N** to read a track at a time.
ALLCHPID	Type **Y** to use all channel paths to the device.
DRIVETEST	Type Y to perform the basic functions of the drive. **Note:** For some drives, specifying SCAN=N and DRIVETEST=N, which means do not scan and do not run the drive test, will print a path status report.

The fields on the screen relate to the parameters in the JCL for the ANALYZE command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS281), which is the ANALYZE statement.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M

//SYSPRINT DD  SYSOUT=*

//SYSIN    DD  *                                  <--AWBS281
 IODELAY SET PERIO(20) MILLI(100)

 ANALYZE DDNAME(DD1) SCAN ALL SPEED -

         ALLCHP DRIVE

 IODELAY RESET

/*

//DD1      DD  DISP=SHR,VOL=SER=SYS035,UNIT=SYSALLDA

//
```

For more detailed information on the ANALYZE command, refer to the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Option 14 - BUILDIX

The BUILDIX command is used to convert the volume table of contents (VTOC) between the indexed format or OS format.

When you choose option 14, **BUILDIX**, on the ICKDSF Functions menu (U.3.14 from the SAW main menu), the following screen displays.

```
 ----------------------------- ICKDSF BUILDIX ----------------------------------
COMMAND ===>

System: SYSNAME1 Local Administrative Dataplex: MYDPLEX

ENTER SELECTION: B      ( B = BACKGROUND)

Attention: When using BUILDIX to convert a VTOC on a volume shared between

           systems, follow these guidelines:

           1. Vary the device OFFLINE to all the other systems

           2. Run BUILDIX

           3. Vary the device back ONLINE to the other systems

           This function is based on the assumption that the VTOCIX data set

           exist on the selected volume.

BUILDIX      : __           <== Enter IX to change to the INDEXED format

                                   or OS to change to the MVS format

VOLSER       : ______       <== Enter volume-serial

DEVICETYPE   : ______       <== Enter device-type of volume serial
```

The table below describes the fields on this screen.

Parameter	Description
BUILDIX	Specify the result of the conversion. Valid values are: • IX. Change to the INDEXED format. • OS. Change to the MVS format.
VOLSER	Type the volser of the volume whose VTOC you want to convert.
DEVICETYPE	Specify the device type, either 3380 or 3390, if it is not already listed.

The fields on the screen relate to the parameters in the JCL for the BUILDIX command. The JCL skeleton is shown below, with some example data. The skeleton shown below is *.*.ISPSLIB(AWBS282), which is the BUILDIX statement.

```
//ICKDSF  EXEC PGM=ICKDSF,REGION=0M

//SYSPRINT DD  SYSOUT=*

//SYSIN    DD  *

 BUILDIX DDNAME(DD1) IX                          <--AWBS282
/*

//DD1      DD  VOL=SER=SYS035,UNIT=SYSALLDA,

//             DSN=SYS1.VTOCIX.VSYS035,

//             DISP=OLD

//
```

For more detailed information on the BUILDIX command, refer to the IBM documentation, *Device Support Facilities: User's Guide and Reference* (GC35-0033-23). To read this book online, go to *http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/FRAMESET/ICK40206*.

Appendix A. Error Messages in SAW

The error messages in this appendix are based on issues with ISPF or with entries made on SAW's screens. For easier reading, "Storage Administration Workbench" is referred to as "SAW" in this appendix. All messages generated by SAW have a severity code printed as the last character of the message ID. The severity codes are described in the following table:

Severity Code	Description
I	Information only. No user action required.
W	Warning message. Results may not be as expected.
E	Error message. Some may be user-correctable. Read the User Response to determine the course of action.

AWBM000I COPYRIGHT SCREEN

Explanation: This screen lists the copyright information for this product.

User Response: No action required.

AWBM001E ENTER CORRECT DATE FORM

Explanation: The date must be in the format DD/MM/YYYY, where DD is the two-digit date, MM is the two-digit month, and YYYY is the four-digit year. For example, June 1, 2003 is 01062003.

User Response: Type a valid date in the DD/MM/YY format.

AWBM002E ENTER D, W OR M

Explanation: This field will only accept a value of D, W, or M.

User Response: Type D, W, or M in this field.

AWBM003E ENTER UP TO 8 CHARS

Explanation: Enter one to eight characters in this field.

User Response: Re-enter with not more than eight characters.

AWBM004E ENTER UP TO 10 CHARS

Explanation: Enter one to ten characters in this field.

User Response: Re-enter with not more than ten characters.

AWBM005E ELAPSED & SPACE? ERROR

Explanation: You cannot choose "elapsed" and "space" at the same time.

User Response: Choose either "elapsed" or "space", but not both.

AWBM006E ENTER Y OR N ONLY

Explanation: Only Y (Yes) and N (No) are valid entries for this field.

User Response: Type Y or N in this field.

AWBM007E ENTER 1, 2, 3 OR 4

Explanation: The only choices possible for this field are 1, 2, 3, or 4.

User Response: Type 1, 2, 3, or 4 in this field.

AWBM008E NO OUTPUT SELECTED

Explanation: You must select either "export" or "chart" as your output.

User Response: Choose either "export" or "chart" to select an output mode.

AWBM009E ENTER ONLY D OR W

Explanation: The only valid entries for this field are D and W.

User Response: Type D or W in this field.

AWBM010E **FOR LOCAL DATAPLEX OPERATION VALID SELECTIONS ARE S, L**

Explanation: For a local dataplex operation, the only valid selections are S and L.

User Response: Type S or L in this field.

AWBM011E **EITHER DEVICE OR SUBSYSTEM MUST BE SPECIFIED**

Explanation: Specify a device or a subsystem name.

User Response: Specify a device or subsystem name.

AWBM012E **BASIC FUNCTIONS CANNOT BE MIXED WITH EXTENDED FUNCTIONS**

Explanation: You cannot mix BASIC and EXTENDED functions.

User Response: Perform either BASIC or EXTENDED functions, but not both at the same time.

AWBM014E **NO VALID FUNCTION SELECTED**

Explanation: None

User Response: Select a valid function.

AWBM015E **NO TARGET VALUE ALLOWED FOR THIS TYPE OF CACHE**

Explanation:

User Response: Do not specify a target value.

AWBM016E **VALID INPUT IS A FOR ACTIVE OR I FOR INACTIVE**

Explanation: The only valid entries are "A" for active or "I" for inactive.

User Response: Enter A or I in this field.

AWBM017E **FOR REMOTE DATAPLEX OPERATION THE ONLY VALID SELECTION IS S**

Explanation: Enter an "S" to select a remote dataplex operation.

User Response: Type S in the field.

AWBM018E **OBSOLETE STATUS CANNOT BE CHANGED**

Explanation: You cannot change this status.

User Response: None

AWBM019E **VALID VOLUME-STATUS = A / O / X**

Explanation:

User Response:

AWBM020E **TARGETS CAN ONLY BE SET IF THE VOLUME IS INDICATED AS CACHED**

Explanation:

User Response:

AWBM021E **THIS OPTION IS NOT ALLOWED ON VOLUME LEVEL FOR SMS MANAGED VOLUMES**

Explanation:

User Response:

AWBM022E **FOR LOCAL DATAPLEX OPERATION VALID SELECTIONS ARE U, D**

Explanation: The valid entries for this local dataplex operation are U and D.

User Response: Type U or D.

AWBM023E **DEVICE NOT INDICATED AS A CACHED DEVICE**

Explanation:

User Response: None required.

AWBM024E **FUNCTION ONLY ALLOWED IF SMS-MANAGED VOLUMES IN POOL poolname**

Explanation:

User Response:

AWBM025E **FUNCTION ONLY ALLOWED IF SMS IS ACTIVE ON YOUR SYSTEM**

Explanation:

User Response: None required.

AWBM026E **NO RACF LIST DATA SET CUSTOMIZED FOR USERID DFP DATA**

Explanation:

User Response: None required.

AWBM027E NO RACF LIST DATA SET CUSTOMIZED FOR GROUP DFP DATA

Explanation:

User Response: None required.

AWBM028E NO RACF LIST DATA SET CUSTOMIZED FOR DS-PROFILE DFP DATA

Explanation:

User Response: None required.

AWBM029E FOR REMOTE DATAPLEX OPERATION THE ONLY VALID SELECTIONS ARE H, S, ?

Explanation: The only entries you can make for this remote dataplex operation are H, S, and ? (question mark).

User Response: Enter H, S, or ? for this operation.

AWBM030E FOR LOCAL DATAPLEX OPERATION VALID SELECTIONS ARE H, S, D, U, A, T, V, ?

Explanation:

User Response:

AWBM031E ONLY SELECTION FROM 1 TO 3 IS ALLOWED

Explanation:

User Response:

AWBM032E ENTER TEST OPTION Y (YES) OR N (NO)

Explanation: Enter Y or N for the test option.

User Response: Enter Y or N.

AWBM033E VALID SELECTIONS ARE 1, 2, 3, 4, 5, 6, 7, ?, m

Explanation: You made an entry that was not valid.

User Response: Enter one of the values listed in the message.

AWBM034E VALID SELECTIONS ARE ALL, DASD, TAPE

Explanation: You must select ALL, DASD, or TAPE.

User Response: Choose ALL, DASD, or TAPE.

AWBM035E ENTER SG/POOL NAME. GENERIC SELECTION IS POSSIBLE. USE * TO SELECT ALL.

Explanation: You must specify the name of a storage group (SG) or pool, or choose all names.

User Response: Type a storage group or pool name, or type an asterisk (*) to select all storage groups or pools.

AWBM037E ENTER A VALID RACF USER-ID

Explanation: Either you did not specify a user ID or you mistyped the user ID.

User Response: Type a RACF user ID.

AWBM038E ENTER A VALID RACF GROUP NAME

Explanation: You either did not enter a name or mistyped the name.

User Response: Type a RACF group name.

AWBM039E VALID SELECTIONS ARE U OR D

Explanation: You did not specify U or D.

User Response: Select U or D.

AWBM040E THE ONLY VALID SELECTION IS U

Explanation: You typed a value other than U for this field.

User Response: Type U in this field.

AWBM041E FUNCTION NOT ALLOWED <==> NO DATA SET NAME CUSTOMIZED.

Explanation:

User Response: Choose a different function.

AWBM042E A SYSTEM MUST BE SELECTED FOR DFHSM LOG PROCESS

Explanation: You did not select a system on which to perform the DFHSM LOG process.

User Response: Select a system.

AWBM043E SELECTION NOT VALID. NO NODE INFORMATION CUSTOMIZED FOR DB PROCESS.

Explanation:

User Response:

AWBM044E **UPDATED HLQ NOT DISPLAYED BECAUSE OF SELECTED APPLICATION application name**

Explanation:

User Response: None required.

AWBM045E **OFFSITE BACKUP HLQ CANNOT BE THE SAME NAME AS ONSITE BACKUP HLQ**

Explanation: You used the same highlevel qualifier for the offsite and onsite backups.

User Response: Ensure that the highlevel qualifier that you specify for the offsite backup is different from the highlevel qualifier you specify for the onsite backup.

AWBM046E **SPA/DVP SELECTION NOT ALLOWED FOR DAILY IN COMBINATION WITH PERIODIC**

Explanation:

User Response:

AWBM047E **ENTER THE TYPE OF DIAGNOSE (ICFCAT OR VVDS)**

Explanation:

User Response: Specify either ICFCAT or VVDS.

AWBM048E **ENTER THE DATA SET NAME FOR WHICH DIAGNOSE SHOULD BE PROCESSED**

Explanation:

User Response: Type the name of the data set that should be processed with DIAGNOSE.

AWBM049E **ONLY ONE ITEM CAN BE SELECTED**

Explanation: You have selected two or more items.

User Response: Select only one item.

AWBM050E **VALID VALUE IS A FOR LOCAL ADMINISTRATIVE**

Explanation:

User Response: Type A if you are using a local administrative dataplex.

AWBM051E **VALID SELECTIONS ARE A, C, D, S, U, X OR F**

Explanation: You typed a value that is not A, C, D, S, U, X, or F.

User Response: Type one of the values in the list.

AWBM052E **VALID VALUE IS L FOR LOCAL**

Explanation: You typed a wrong value for a local dataplex.

User Response: If you want to use a local dataplex, type L for the value.

AWBM053E **ENTER THE NUMBER OF CATALOG BACKUP GDG ENTRIES**

Explanation: You did not indicate how many catalog backup GDG entries there will be.

User Response: Type a number to indicate how many catalog backup GDG entries will be used.

AWBM054E **ENTER UNIT NAME THAT SHOULD BE USED FOR SORTWKxx DD-NAMES**

Explanation:

User Response:

AWBM055E **VALUE T CANNOT BE UPDATED FOR A REMOTE TARGET DATAPLEX**

Explanation:

User Response: None required.

AWBM056E **ENTER UNIT NAME USED FOR ONSITE BACKUP DATA SET ALLOCATIONS ON DASD**

Explanation: You did not specify a unit name to be used for allocating data sets on DASD for onsite backups.

User Response: Type a unit name.

AWBM057E **ENTER UNIT NAME USED FOR ONSITE BACKUP DATA SET ALLOCATIONS ON TAPE**

Explanation: You did not specify a unit name to be used for allocating data sets on tape for onsite backups.

User Response: Type a unit name.

AWBM058E ENTER ALGORITHM IDS USED FOR ONSITE BACKUP DATA SET ON DASD

Explanation: You did not specify an algorithm ID.

User Response: Type an algorithm ID.

AWBM059E ENTER ALGORITHM IDS USED FOR ONSITE BACKUP DATA SET ON TAPE

Explanation: You did not specify an algorithm ID.

User Response: Type an algorithm ID.

AWBM060E ONLY ONE OF THE FOLLOWING DEVICE TYPES ARE SUPPORTED: (LIST OF DEVICES)

Explanation: You selected more than one device type.

User Response: Select a device type from the list.

AWBM061E ENTER DEVICE NAME THAT IS USED FOR ALLOCATIONS WITHIN THIS APPLICATION

Explanation:

User Response: Type a device name.

AWBM062E FUNCTION NOT ALLOWED <==> NO REMOTE NODE AND USER-ID CUSTOMIZED

Explanation:

User Response:

AWBM063E FUNCTION NOT ALLOWED FOR REMOTE DATAPLEX.

Explanation:

User Response: Choose a different function.

AWBM064E UPDATE NOT PROCESSED <==> ONLY ONE LOCAL DATAPLEX ALLOWED.

Explanation:

User Response: None required.

AWBM065E FUNCTION NOT ALLOWED <==> NO NODE.USER-ID OR NICKNAME CUSTOMIZED.

Explanation:

User Response: None required.

AWBM066E FUNCTION NOT ALLOWED. THE CURRENT DATAPLEX IS NOT THE SELECTED DATAPLEX.

Explanation:

User Response: None required.

AWBM067E FUNCTION NOT ALLOWED ON SELECTED DATAPLEX.

Explanation:

User Response: None required.

AWBM068E THE DATA SET 'SYS1.LINKLIB.ADSM' IS NOT ALLOCATED UNDER ISPLLIB.

Explanation:

User Response: None required.

AWBM070E SPECIFIED SMF/JES-ID DOES NOT EXIST. PLEASE SELECT A VALID SYSTEM.

Explanation: The SMF/JES-ID you specified is not valid.

User Response: Specify a valid SMF/JES-ID

AWBM071E VALID SELECTIONS ARE M, U, O, X

Explanation: The letter you typed was not valid for this field.

User Response: Type an M, U, O, or X.

AWBM072E USE S TO SELECT A DATAPLEX

Explanation: This is for your information only.

User Response: Type an S next to the name of the dataplex you want to choose.

AWBM073E ENTER UNIT NAME USED FOR OFFSITE BACKUP DATA SET ALLOCATIONS ON DASD

Explanation:

User Response: Type a unit name.

AWBM074E ENTER UNIT NAME USED FOR OFFSITE BACKUP DATA SET ALLOCATIONS ON TAPE

Explanation:

User Response: Type a unit name.

AWBM075E ENTER THE DEFAULT JOB CLASS FOR BATCH PROCESSING

Explanation:

User Response: Type a default job class.

AWBM076E ENTER THE DEFAULT MESSAGE CLASS FOR BATCH PROCESSING

Explanation:

User Response: Type a default message class.

AWBM077E ENTER A VALID HLQ USED FOR OFFSITE BACKUP DATA SETS.

Explanation:

User Response: Type a highlevel qualifier for the datasets used for offsite backups.

AWBM078E ENTER THE DEFAULT INITIAL VALUE THAT SHOULD BE USED FOR NEW VI ENTRIES

Explanation:

User Response: Type a default initial value.

AWBM079E ENTER A NUMERIC VALUE IN THE RANGE BETWEEN 000 AND 100

Explanation: This is for your information.

User Response: Type a number between 000 and 100.

AWBM080E ENTER A NUMBERIC VALUE IN THE RANGE BETWEEN 00 AND 99

Explanation: This is for your information.

User Response: Type a number between 00 and 99.

AWBM082E ENTER VALID EXECUTION MODE. VALID MODES ARE OLD OR NEW

Explanation: The only valid execution modes are "OLD" or "NEW."

User Response: Type either OLD or NEW for the execution mode.

AWBM083E SELECTIONS CANNOT BE MIXED

Explanation:

User Response:

AWBM084E NO VALID FUNCTION SELECTED

Explanation:

User Response: Select a valid function for this process.

AWBM085E PRIMARY COMMAND CLIST . . . . . CAN BE SELECTED FOR TABLE PROCESSING

Explanation: This is for your information.

User Response: None required.

AWBM086E NO DEFAULT SYSTEM AVAILABLE

Explanation: This is for your information.

User Response: None required.

AWBM087E ENTER THE CACHE MODEL YOU LIKE TO PROCESS. VALID VALUES ARE 03/06/13/23/SK

Explanation:

User Response: Type the value of the cache model you want to process: 03, 06, 13, 23, SK.

AWBM088E IF PROCEDURE GENERATION IS REQUESTED, ONLY ONE ITEM CAN BE SELECTED

Explanation: This is for your information.

User Response: Select only one item when generating a procedure.

AWBM089E NO VALID SELECTION WAS MADE. VALID SELECTIONS ARE J, I, P OR G

Explanation: You must choose J, I, P, or G for this process.

User Response: Type J, I, P, or G for this field.

AWBM090E ENTER PROCLIB DATA SET NAME

Explanation: The name of the PROCLIB data set needs to be entered.

User Response: Type the name of the PROCLIB data set.

AWBM091E ENTER A NUMERIC VALUE IN THE RANGE BETWEEN 000 AND 999

Explanation: This field requires a number between 000 and 999.

User Response: Type a number between 000 and 999 for this field.

AWBM092E SELECTION NOT VALID. NO ONSITE BACKUP HLQ CUSTOMIZED.

Explanation: The selection you made does not work because the highlevel qualifier for the onsite backup is not customized.

User Response: Either make a different selection or customize a highlevel qualifier for an onsite backup.

AWBM093E SELECTION NOT VALID. NO OFFSITE BACKUP HLQ CUSTOMIZED.

Explanation: The selection you made does not work because the highlevel qualifier for the offsite backup is not customized.

User Response: Either make a different selection or customize a highlevel qualifier for an offsite backup.

AWBM094E DFHSM ADDVOL COMMAND NOT ALLOWED IN JES3 ENVIRONMENT

Explanation: This is for your information.

User Response: None required.

AWBM095E MODE "R" OR "R T" COULD NOT BE MODIFIED

Explanation:

User Response:

AWBM096E ENTER A NUMERIC VALUE IN THE RANGE BETWEEN 001 AND 999.

Explanation: This is for your information.

User Response: Type a number between 001 and 999 for this field.

AWBM097E FUNCTION ONLY ALLOWED ON A REMOTE TARGET DATAPLEX

Explanation: This is for your information.

User Response: Either choose a different function to perform on a remote target dataplex or choose a different type of dataplex for which this function will work.

AWBM098E YOU ARE NOT AUTHORIZED TO USE THIS DATAPLEX

Explanation: This is for your information.

User Response: No action required.

AWBM099E FUNCTION NOT ALLOWED ON THE LOCAL DATAPLEX

Explanation: This is for your information.

User Response: Either choose a different function to perform on a remote target dataplex or choose a different type of dataplex for which this function will work.

AWBM100E EMPTY DATA SET

Explanation: This is for your information.

User Response: No action required.

AWBM101E EITHER TRANSMIT OR NFTP IS ACCEPTED

Explanation: Choose either TRANSMIT or NFTP.

User Response: Choose either TRANSMIT or NFTP.

AWBM102E CURRENT AND ADMINISTRATIVE SAW NFTP REMNODE/RNOTIFY CANNOT BE IDENTICAL

Explanation:

User Response:

AWBM103E BOTH REMNODE AND RNOTIFY MUST BE SPECIFIED FOR IFX TRANSMISSIONS

Explanation: This is for your information.

User Response:

AWBM104E BOTH CURRENT NFTP REMNODE AND OPC INFORMATION MUST BE SPECIFIED

Explanation: This is for your information.

User Response:

AWBM105W typesel typename NOT FOUND

Explanation: This is for your information.

User Response: No action required.

AWBM106I LMSG TEXT

Explanation: This is for your information.

User Response: No action required.

AWBM107W LMSG TEXT

Explanation: This is for your information.

User Response: No action required.

AWBM108E SELECTION Y NOT ALLOWED, WHEN NO TAPE MGMT. IS SPECIFIED IN OPT 8.2.T

Explanation: Option 8.2.T is now option S.2.2.T, where S is the Setup and Configuration option on the SAW main menu, 2 is the Dataplex and System Configuration Parameters, 2 is System, and then T.

User Response: Review whether tape management is needed.

AWBM110E ERROR errorRC OCCURRED WHILE ALLOCATING THE WORKFILE file name

Explanation: This is for your information.

User Response: No action required.

AWBM111E ERROR errorRC OCCURRED WHILE ALLOCATING THE SAI DATASET name

Explanation: This is for your information.

User Response: No action required.

AWBM112E ERROR errorRC OCCURRED WHILE EXECUTING REPRO (input SAIfilename output outfilename

Explanation: This is for your information.

User Response: No action required.

AWBM113W WARNING! DATAPLEX name HAVE NO VOLUMES OR ALL VOLUMES ARE SMS-MANAGED.

Explanation: This is for your information.

User Response: No action required.

AWBM114E ERROR error LOOKING (LMMFIND) FOR THE VOLUMES/POOL CONFIGURATION MEMBER name

Explanation: This is for your information.

User Response: No action required.

AWBM115E ERROR errorRC OCCURRED WHILE CREATING TEMPORARY ISPF TABLE name

Explanation: This is for your information.

User Response: No action required.

AWBM116I VOLUME TO POOLS CONFIGURATION FILE SUCCESSFULLY UPDATED.

Explanation: This is for your information.

User Response: No action required.

AWBM117I CANCEL ACCEPTED. VOLUMES TO POOLS CONFIGURATION FILE HAS NOT BEEN UPDATED.

Explanation: This is for your information.

User Response: No action required.

AWBM118E SPECIFY ONE OF THE "POOL NAME" OR "ASSIGNED TO APPL." FIELD (OR BOTH)

Explanation: An entry needs to be made in either the "Pool Name" field or the "Assigned to Appl." field, or both.

User Response: Make an entry in one or both of those fields.

AWBM119E DATAPLEX name HAS NO POOLS AND/OR SMS-STORAGEPOOLS.

Explanation: This is for your information.

User Response: No action required.

AWBM120E SPECIFIED POOL name DOES NOT EXIST. ADDED NOW.

Explanation: This is for your information.

User Response: No action required.

AWBM121E POOL name IS AN SMS SG AND CANNOT BE USED AS POOL.

Explanation: This is for your information.

User Response: No action required.

AWBM122E ERROR skeleton status CHECKING THE SKELS DATASET FOR CURRENT DATAPLEX name

Explanation: This is for your information.

User Response: No action required.

AWBM123E **ERROR error OPENING (LMOPEN) DATASET parmlib FOR OUTPUT**

Explanation: This is for your information.

User Response: No action required.

AWBM124E **ERROR error UPDATING (LMREP) DATASET name**

Explanation: This is for your information.

User Response: No action required.

AWBM125E **ERROR error WRITING (LMPUT) DATASET name**

Explanation: This is for your information.

User Response: No action required.

AWBM126E **FUNCTION LISTDSI ERROR RETURN CODE = listcode.**

Explanation: This is for your information.

User Response: No action required.

AWBM127E **blocku DIRECTORY BLOCKS NOT ENOUGH FOR poolnum ITEMS, AT LEAST blocknum NEEDED**

Explanation: This is for your information.

User Response: No action required.

AWBM128E **THE DATE MUST BE NUMERIC**

Explanation: This is for your information.

User Response: No action required.

AWBM129W **THERE IS NO SAW-DEFINED ATL ON THIS SYSTEM.**

Explanation: This is for your information.

User Response: No action required.

AWBM130E **VALID VALUES FOR UPDATE FIELD ARE N OR Y**

Explanation: This is for your information.

User Response: Enter Y or N in this field.

AWBM131W **TEXT CHANGED BUT THE UPDATE FLAG IS SET TO N; IF YOU WANT TO SAVE THE CHANGE PLEASE SET THE UPDATE FLAG TO Y**

Explanation:

User Response: To save the change, set the update flag to Y.

AWBM132E **LOCK OR UNLOCK VALUE IS REQUESTED**

Explanation:

User Response: Specify either LOCK or UNLOCK.

AWBM133E **IS NOT POSSIBLE EXECUTE THE COMMAND LOCK-UNLOCK ON MASTER CATALOG.**

Explanation: This is for your information.

User Response: No action required.

AWBM134E **YOU HAVE TO MODIFY ALSO DATAPLEX NAME.**

Explanation:

User Response: Change or edit the dataplex name.

AWBM135E **Reserved for future use.**

Explanation:

User Response:

AWBM136E **Reserved for future use.**

Explanation:

User Response:

AWBM137E **Reserved for future use.**

Explanation:

User Response:

AWBM139E **Reserved for future use.**

Explanation:

User Response:

AWBM140E **COMMAND P ALLOWED ONLY ON REMOTE DATAPLEX**

Explanation: This is for your information.

User Response: Either change the command to something other than P or use the P command on a local dataplex.

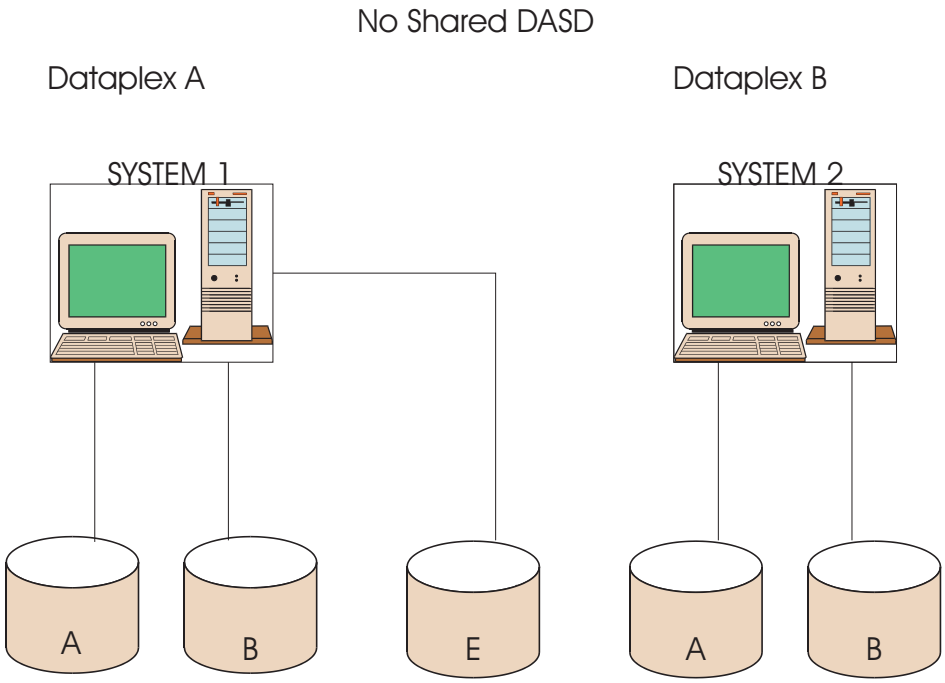
AWBM141E DO NOT SPECIFY SAI TRANSMISSION TOGETHER WITH NFTP REQUEST

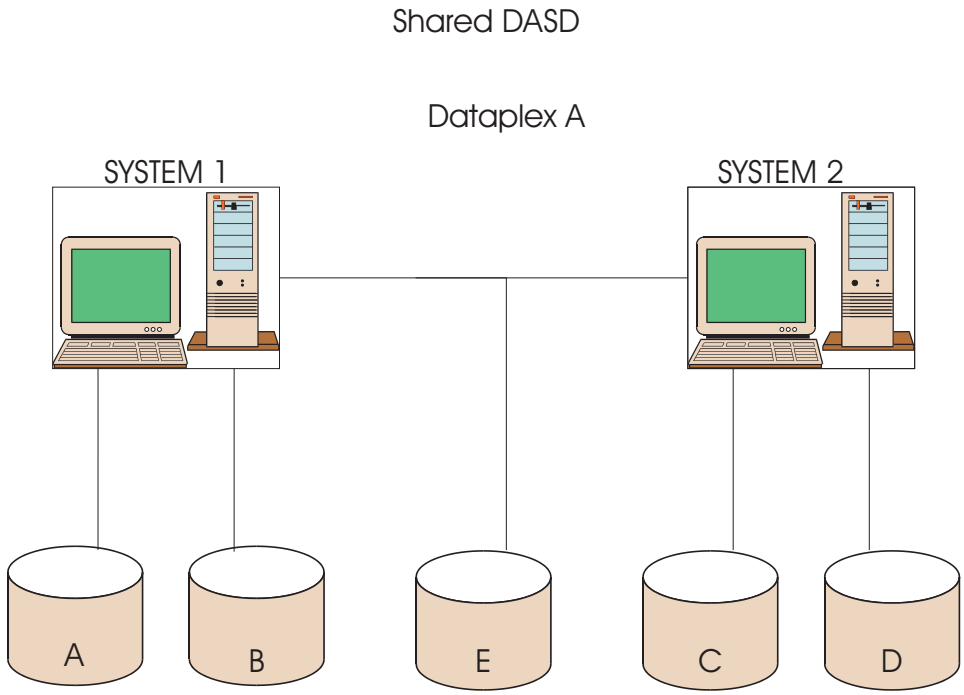
Explanation: This is for your information.

User Response:

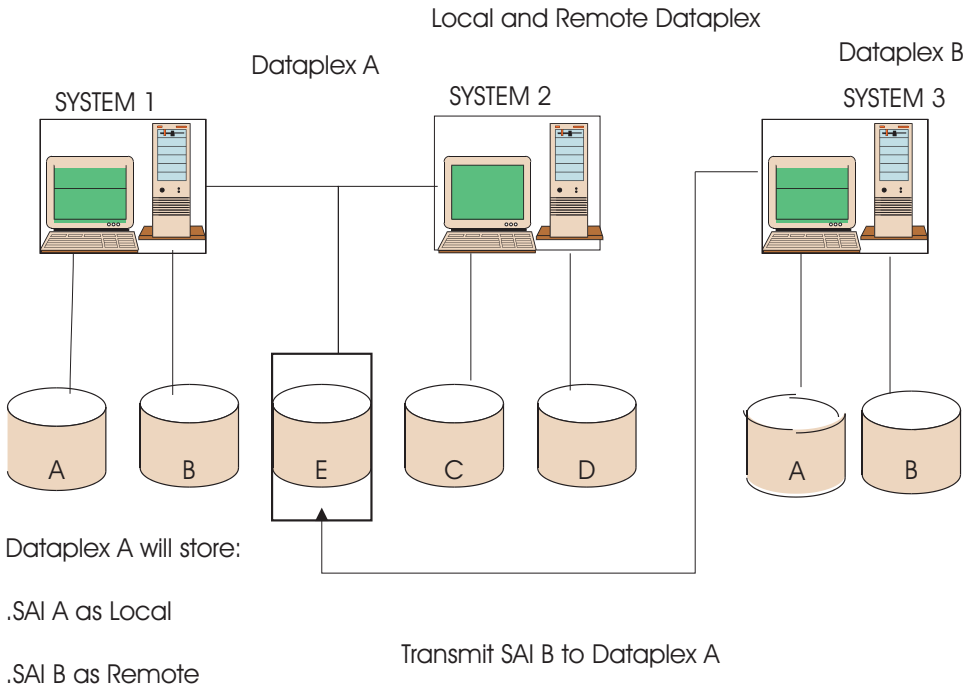
Appendix B. Dataplex Configurations

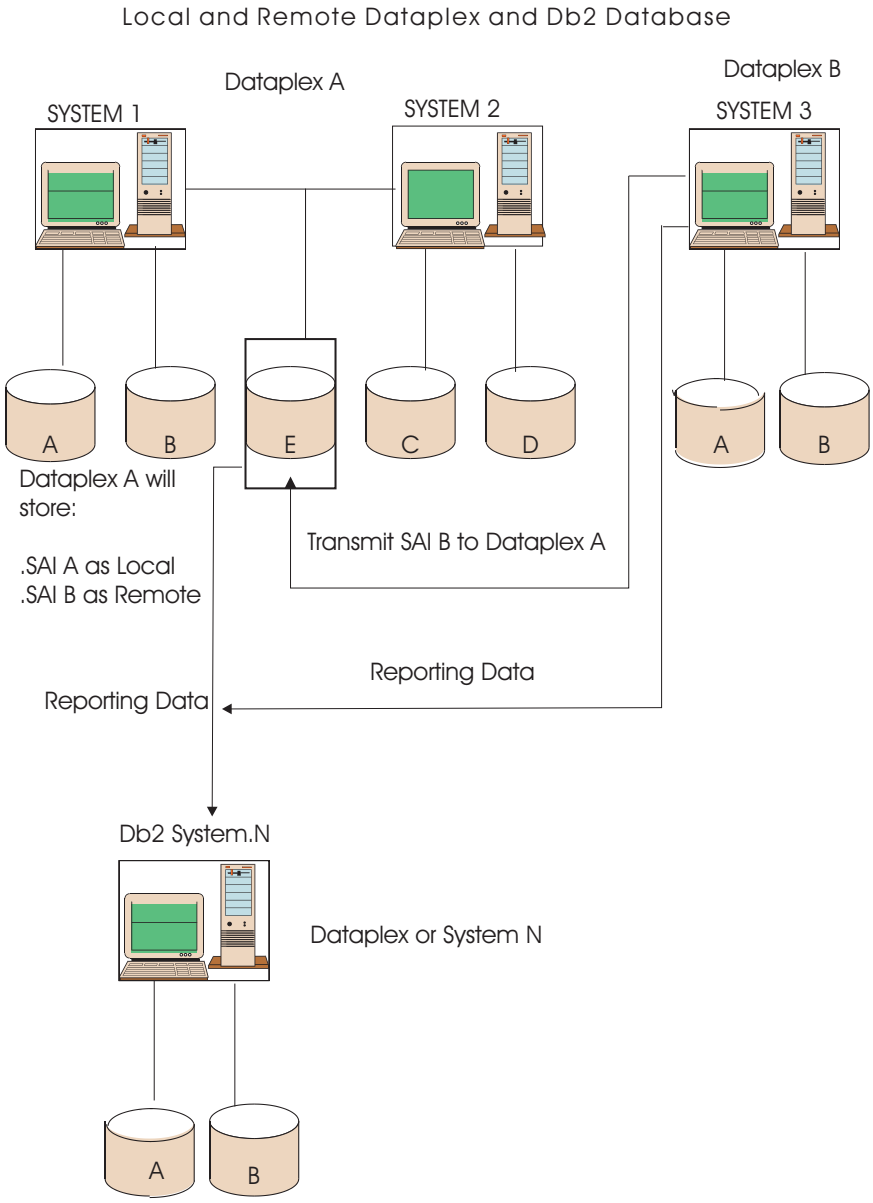
This appendix shows the different forms of a dataplex. They are described here to support the definition or the help in understanding the various aspects a dataplex can take.





Fully effective if same RACF DB; if not, make two dataplexes.




Local and Remote Dataplex and Db2 Database
Dataplex A
Dataplex B
SYSTEM 1
SYSTEM 2
SYSTEM 3
A
B
E
C
D
A
B
Dataplex A will store:
.SAI A as Local
.SAI B as Remote
Transmit SAI B to Dataplex A
Reporting Data
Reporting Data
Db2 System.N
Dataplex or System N
A
B

Glossary

This glossary includes terms and definitions from:

- The SystemView Glossary
- The TE SMP Glossary

The following cross-reference terms are used in this glossary:

Contrast with. This refers to a term that has an opposed or substantively different meaning.

See. This refers the reader to multiple-word terms in which this term appears.

See also. This refers the reader to terms that have a related, but not synonymous, meaning.

Synonym for. This indicates that the term has the same meaning as a preferred term, which is defined in the glossary.

A

ACS. DFSMS Automatic Class Selection

alert. (1) In SNA, a record sent to a focal point to identify a problem or an impending problem. (2) A notification of an event needing an immediate human intervention, the intervention being either an acknowledgement or the complete correction of the event. The alerts will be created by comparing current figures against an alert threshold.

AO. (1) Automation Option (2) Automated Operations

APAR. Authorized Program Analysis Report

APF. Authorized Program Facility

ATL. Automated Tape Library (IBM Tape Library robot)

Authorized Program Analysis Report (APAR). An Authorized Program Analysis Report or APAR, entered into RETAIN/SSF, is the vehicle by which IBM software product defects are documented. The APAR documents the failing component, the symptoms of the failure, and the product function environment associated with the failing component.

Application. A collection of highlevel qualifiers (HLQs). An HLQ must belong to only one application.

Application Pool. A collection of pools. A pool may only belong to one application pool. Grouping pools together for reporting purposes can be helpful. For example, there may be several pools that contain "system" data, such as paging, JES spool, and Sysres pools, that could be grouped together. These can all be associated with one "System" application pool and consolidated figures will then be produced in various reports.

B

backup. (1) An action that creates a partial or full copy of an object that can be used to recover the original object. (2) A provision to rebuild a failed resource or a spare resource that can take over for a failed resource.

batch. Pertaining to a group of jobs to be run on a computer sequentially with the same program with little or no operator action. Contrast with interactive.

BCDS. Backup Control Data Set for DFHSM.

BLKSIZE. Block size

BTLS. An IBM product that manages a robot.

business management. The discipline that encompasses inventory management, security management, financial administration, business planning and management services for all enterprise-wide information system facilities.

C

CA. Control Area.

CA-1. Tape management product of Computer Associates (CA).

CDS. Control Data Set.

charging. See Cross Charging

CI. Control Interval.

Compression Ratio. The result of dividing the used space, as seen by the user, by the physical space needed to contain it.

configuration. The physical and logical arrangement of devices and programs that make up a data processing system. See also communications configuration, line configuration, controller configuration and device configuration.

configuration management. The discipline that manages the physical and logical properties of resources and their relationships (such as connections and dependencies).

convention. See service delivery convention.

Cross Charging. Cross Charging is the TE SMP application, based on dpAM. It is designed to account the use of data processing resources, MVS and VM, CPU and

DASD, based on measurements collected by SLR for CPU and SADC/SARA/SAW for disk measurement.

customization. Jobs and/or procedures required after 'installation' before a product's function can be used or before a product's service is effective.

D

Dataplex. One or more MVS systems which share DASD volumes. Refer to Appendix B, "Dataplex Configurations" on page 217 for various possibilities for configuring a dataplex. The scope of a RACF database or of one DFHSM system may help, but essentially the Storage Administrators must decide what they want to manage and plan as a single entity. Each dataplex is given a name up to eight characters in length which must be unique. Check with your DBA to ensure that a dataplex name you want to use is unique.

DASD. Direct Access Storage Device.

DB2. Data Base 2.

DCOLLECT. Data Collection (IDCAMS function).

DD. Data Definition.

DEFRAG. Defragmentation (DFDSS function).

DFDSS. Data Facility Data Set Services.

DFHSM. Data Facility Hierarchical Storage Manager.

DFP. Data Facility Product.

DFRMM. The IBM tape management product in a non-SMS environment. See *RMM*.

DFSMS. Data Facility Storage Management Subsystem.

DMA. Data Management Application (TE SMP application). DMA provides application administrators with exceptions and reports on data management.

DR. Data Repository (TE SMP package). DR is a shared DB2 data base intended to contain all data required by several SMP applications. The core data required by virtually any systems management application consists of configuration and enterprises (IBM and third parties) organization information. DR package creates the DB2 data base and provides an API to feed organization data from existing files and a user interface for manual input. DR is a key enabler of the SMP layer.

DS. Data Set.

DSCB. Data Set Control Block.

DSF. Device Support Facility.

DSORG. Data Set organization.

E

EMEA. Europe, Middle East and Africa.

ESA. Enterprise System Architecture

exceptions. Exceptional or out-of-line situations that need further examination. They are created by comparing current figures with a plan or threshold. Jobs can be established that regularly generate messages that will be automatically sent to the appropriate people involved in storage administration activities.

F

focal point. (1) An entry point that provides centralized management and control for other entry points for one or more management categories. (2) In NetView, the focal point domain is the central host domain. It is the central control point for any management services element containing control of the network management data. See also primary focal point, default focal point, and sphere of control.

G

GDDM. Graphical Data Display Manager.

GDS. Generation Data Set.

Group. A collection of subgroups. A subgroup must only belong to one group.

H

HLQ. High Level Qualifier of a data set. In RACF terms, his includes USERIDs and GROUPs.

I

IAS. Information Asset Security.

IBM. International Business Machines.

ICKDSF. Utility program for DSF.

IDCAMS. DFP utility.

Initial Program Load (IPL). The process that loads the system programs from the system auxiliary storage, checks the system hardware and prepares the system for user operations.

interactive. Pertaining to the exchange of information between people and a computer. Contrast with batch.

International Standards Organization (ISO). An international group for defining standards.

inventory. (1) a collection that represents the assets that an IS organization uses. Inventory is considered anything that requires 'who', 'what' and 'where' types of information. (2) inventory contains the representation of all Information Assets including hardware, software, data and the authorization of people and applications that access the resources.

IPL. See initial program load (IPL).

ISO. International Standards Organization.

ISPF. Interactive System Productivity Facility.

J

JCL. Job Control Language.

JES. The MVS Job Entry Subsystem. There are two flavors, JES2 and JES3.

job. (1) A unit of work to be done by a computer. (2) A unit of work to be processed by a system.

journal. A record of changes since a previous backup.

K

KSDS. Key Sequenced Data Set.

L

local. Pertaining to a device or system that is connected directly to or a file that is read directly from a system, without the use of a communications line. Contrast with remote.

local administrative dataplex. A dataplex that can administer other dataplexes, called "remote target dataplexes."

local dataplex. A dataplex that can receive and view information of other dataplexes, called "remote dataplexes."

logical device. DASD that is seen by the user, such as 3390-3. Contrast with "physical" device.

M

machine room. The physical location of DASD. Usually a room name or number.

master. The RMM name for a no-scratch volume.

MB. Megabytes.

MCDS. Migration Control Data Set for DFHSM.

ML1. DFHSM Migration Level 1.

ML2. DFHSM Migration Level 2.

MVS. Multiple Virtual Storage.

MVS/ESA. Multiple Virtual Storage/Enterprise Systems Architecture.

N

NFTP. NetView File Transfer Program.

No-Scratch. A tape volume that the tape management product considers to contain valid contents, according to the rules provided by the user.

O

OCDS. Offline Control Data Set for DFHSM.

OPC/ESA. Operation Planning and Control/Enterprise Systems Architecture.

P

PDF. Program Development Facility.

PDF abbreviation. Identical to the one defined in Hardware Configuration Manager (HCM). It contains the abbreviation ID of one of HCM's physical description templates, such as RVA1, RAMAC, etc.

PF Keys. Program Function keys.

physical device. A real disk used by the RVA. The user is unaware of it.

pool. Set of volumes that is addressable from the dataplex. This is equivalent to a storage group in the DFSMS environment. Each volume may only belong to one pool.

Q

QMF. Query Management Facility.

R

RACF. Resource Access Control Facility.

recommendation. See *service delivery recommendation*.

recovery. (1) The process of rebuilding databases after a system failure. (2) The restoring of a system or data to an agreed level (integrity, accessibility and function) after a failure - usually by rebuilding or replacing failed resources.

remote. Pertaining to a device, system, or file that is connected to another device, system, or file through a communications line. Contrast with local.

remote dataplex. A dataplex which sends information that can be viewed on a "local" dataplex.

remote dataplex processed in local. A dataplex defined in a "local administrative dataplex". All of the DCOLLECT data that is sent by a remote system is elaborated locally in a "local administrative dataplex."

remote target dataplex. A dataplex that is administered by a "local administrative dataplex."

Removable Media Management. See *RMM*.

REXX. REstructured eXtended eXecutor.

RMM. Common name for DFSMSrmm and DFRMM.

Robot. Tape devices that can automatically mount cartridges on its units.

RVA. Ramac Virtual Array

S

SAW. Storage Administration Workbench. SAW manages DASD storage space in a dataplex. An MVS dataplex is a complex of one or more MVS systems sharing storage resources. SAW is the workbench of the storage administrator. It gives access to an inventory of resources, reports, trends, exceptions, and alerts.

scratch. A tape volume that the tape management product considers to be without valid contents, making it re-usable. This assessment is based on the rules provided by the user.

SDC. Service Delivery Center.

service delivery convention. A set of common definitions that must be followed by the service delivery community.

service delivery recommendation. A set of common definitions that should be followed by the service delivery community.

SETROPTS. SET Racf OPTionS.

SG. Storage Group.

SMF. Systems Management Facilities.

SMP. (1) Systems Management Process (2) Systems Management Processes

SMS. System Managed Storage.

SMStape. An IBM product that manages a robot.

SSC. Supply and Support Center.

Storage Administration Inventory (SAI). One or several dataplex descriptions in a VSAM KSDS. The SAI is accessed through the workbench, which is the SAW interface.

storage group. A named set of DASD volumes.

stored reports. Standard reports that can be created regularly and stored for viewing to understand the alerts or exceptions. Any of these reports can be distributed on a regular basis.

string. A number of physically connected DASD units.

subgroup. A collection of applications. An application can only belong to one subgroup.

T

tape. A cassette or reel-to-reel storage medium on which data can be stored by magnetic recording.

tape management product. Software which manages tape volumes, keeping an inventory and controlling mounting to prevent the destruction of valid data. IBM's RMM software and Computer Associates' TLMS and CA-1 software are examples of tape management products.

TE. Technical Environment.

TLMS(c). A tape management product produced by Computer Associates (CA).

TMM. Tape Mount Management. A technique aimed to transform tape files into DASD files without JCL changes, using SMS ACS routines and classes.

TSO. Time Sharing Option.

U

UACC. Universal ACces Control (TE SMP application). The IAS rule for universal access on resources (UACC) is "none". UACC controls that resources which have universal access greater than none are registered and controlled. This is done by comparing RACF real UACC status to the central DB2 reference.

UCB. Unit Control Block.

V

VM. Virtual Machine

VOLCAT. The user catalog that holds the inventory of volumes on a robot managed by SMStape.

VSAM. Virtual Storage Access Method.

VTOC. Volume Table Of Contents.

VVDS. Virtual VSAM Data Set.

W

warning. A potential problem which may lead to an alert if no action (human or automated) is taken.

Index

T

U

V

Readers' Comments—We'd Like to Hear from You

Storage Administration Workbench for z/OS and OS/390
User's Guide
Version 1 Release 1

Publication No. SC27-1608-00

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Easy to understand	❑	❑	❑	❑	❑
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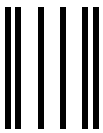

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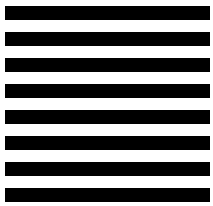

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