



CONSULTING

RACF & Storage Administration

KOIRUG – May 2014



Robert S. Hansel Lead RACF Consultant R.Hansel@rshconsulting.com 617-969-9050

Robert S. Hansel



Robert S. Hansel is Lead RACF Specialist and founder of RSH Consulting, Inc., an IT security professional services firm he established in 1992 and dedicated to helping clients strengthen their IBM z/OS mainframe access controls by fully exploiting all the capabilities and latest innovations in RACF. He has worked with IBM mainframes since 1976 and in information systems security since 1981. Mr. Hansel began working with RACF in 1986 and has been a RACF administrator, manager, auditor, instructor, developer, analyst, and consultant. He has reviewed, implemented, and enhanced all manner of RACF controls for major insurance firms, financial institutions, utilities, payment card processors, universities, hospitals, and international retailers. Mr. Hansel is a leading expert in securing z/OS Unix and has pioneered the effective use of many of its security features and functions. He is also highly skilled at redesigning and refining large-scale implementations of RACF using role-based access control concepts. Mr. Hansel has created elaborate automated tools to assist clients with RACF administration, database merging, identity management, and quality assurance.

Contact and background information:

- 617-969-8211
- R.Hansel@rshconsulting.com
- www.linkedin.com/in/roberthansel
- www.rshconsulting.com

Storage Administration



■ Tasks & Functions

- Manage Storage Management Subsystem (SMS - a.k.a. System Managed Storage) configuration, constructs, and Automatic Class Selection (ACS) routines
- Copy and move data between devices and systems
- Backup (dump) and restore data
- Manage space - compress, defrag, and release
- Migrate, recall, catalog, and delete (scratch) data
- Merge, move, and fix catalogs
- Manage DASD devices
- Manage Removal Media (tape)

■ Tools - DFSMS/MVS

- DFSMSdfp Data Facility Product (IDCAMS utility - Access Method Services)
- DFSMSdss Data Set Services (ADRDSSU utility)
- DFSMSHsm Hierarchical Storage Manager
- DFSMSrmm Removal Media Manager
- ICKDSF Device Support Facilities
- ISMF Interactive Storage Management Facility

RACF, DFSMS, and z/OS are Trademarks of the International Business Machines Corporation

Storage Administration



- RACF Authorities
 - Dataset Access Authorization
 - OPERATIONS Authority
 - Catalog Authorization
 - DASDVOL Profiles
 - FACILITY Storage Admin Profiles
 - ISMF Program Authorization
 - DFSMSHsm Authorities
 - Miscellaneous Issues & Authorities

- Storage Admin authorities can be used to replace OPERATIONS authority

- RACF can be used to govern SMS data management
 - STORCLAS and MGMTCLAS classes and profiles
 - DFP segments on user, group, and dataset profiles



OPERATIONS Authority



- Grants ALTER level access to resources whose classes have been defined with OPER=YES in the Class Descriptor Table

DATASET	TAPEVOL	DASDVOL/GDASDVOL	
PSFMPL	NETCMDS	NETSPAN	RODMMGR

- Scope of authority
 - SYSTEM / USER-Attribute

ALU userid attribute

```
USER=JSMITH1  NAME=JOHN SMITH          OWNER=SECGRP1  CREATED=01.067
DEFAULT-GROUP=USRGRPA  PASSDATE=00.351  PASS-INTERVAL= 30
ATTRIBUTES=OPERATIONS
```

Authority applies across entire RACF system

- GROUP / CONNECT-Attribute

CO userid GROUP(groupid) attribute

```
GROUP=DASDMGT  AUTH=USE  CONNECT-OWNER=RJONES2  CONNECT-DATE=92.181
CONNECTS=      00  UACC=NONE  LAST-CONNECT=UNKNOWN
CONNECT ATTRIBUTES=OPERATIONS
```

Authority limited by Scope-of-Groups

OPERATIONS Authority



- OPERATIONS authority ...
 - Applies to both SMS and non-SMS managed data
 - Grants ALTER access to datasets unless restricted
 - Allows creation of group datasets and profiles (implicit group CREATE authority)
 - Allows defining or renaming RACF-indicated datasets and discrete profiles

- Can be restricted by ...
 - Permitting an OPERATIONS user's USERID or one of its connect groups to a profile's Standard Access List limits the user's access to the level permitted (e.g., READ)
 - Connecting the USERID of an OPERATIONS user to the Group matching a dataset HLQ with AUTHORITY(USE) ...
 - ❖ Prevents the creation of new datasets under that HLQ unless explicitly permitted ALTER access
 - ❖ Prevents the creation of group dataset profiles under that HLQ

OPERATIONS Authority



- Best practices
 - Implement Storage Admin authorities as an alternative
 - Assign OPERATIONS only to alternate "emergency" IDs for storage administrators
 - Create access blocking group, and minimally permit access to ...
 - ❖ DASDVOL profiles
 - ❖ DATASET profiles protecting Catalogs
 - ❖ DATASET profiles protecting APF-authorized libraries
 - (Optional) CONNECT users to HLQ groups (e.g., SYS1) with AUTHORITY(USE)
 - (Optional) Restrict use of ADDSD with PROGRAM profiles or RACF command exit
 - Monitor OPERATIONS use by activating SETROPTS OPERAUDIT
- Barriers to best practice implementation
 - Politics | Inertia | FUD (Fear, Uncertainty, and Doubt)
 - Assigned responsibilities may require access to any/all files
 - ❖ Technical Assistance - help with dataset problems
 - ❖ Dataset Allocation - pre-allocate production files
 - ❖ Production Fixes - production job reruns
 - ❖ Problem Resolution ("Firecall") - fix any production problem

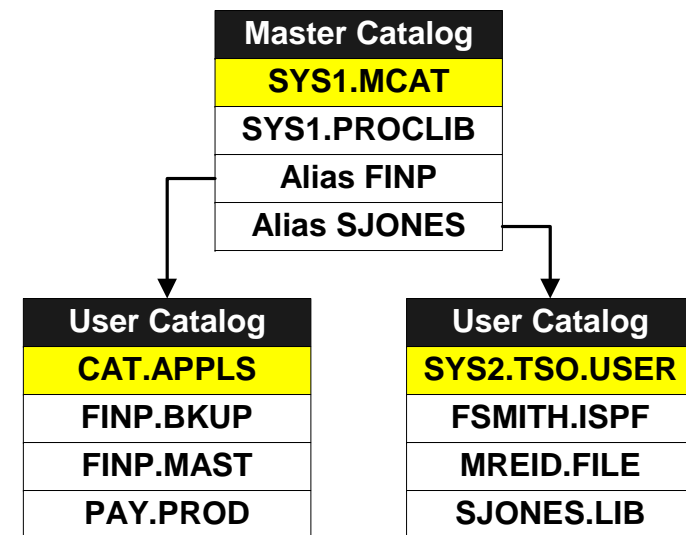
Catalog Authorization



- A catalog is a dataset that contains information about other datasets and provides users with the ability to locate a dataset by name, without knowing where the dataset resides

- Typical catalog structure & entries

- Master catalog
 - ❖ SYS1 datasets
 - ❖ Key system datasets - referenced in IPL (e.g., RACF databases, PARMLIBs)
 - ❖ User catalogs
 - ❖ Aliases (dataset prefixes with pointers to user catalogs)
- User catalogs
 - ❖ Application datasets
 - ❖ User datasets



- To find a dataset, the Master catalog is searched first, and then the User catalog pointed to by the alias

Catalog Authorization



- READ access to the catalog is required to locate a dataset via the catalog
- UPDATE access to the catalog is required to add or change an entry when creating, cataloging, and uncataloging a dataset, provided the user also has ALTER access to the target dataset
- Access authorization to a User catalog is not required to add an entry when creating an SMS controlled dataset
- ALTER access to a dataset ...
 - Allows deleting the dataset and removing its entry from the catalog without requiring access authorization to the catalog
 - Allows renaming of the dataset and changing its entry in the catalog without requiring access authorization to the catalog, provided the user also has ALTER access or group CREATE authority to the new dsname

Catalog Authorization



- ALTER access to the catalog allows:
 - Uncataloging any non-SMS managed dataset without ALTER access to the dataset itself
 - Deleting any SMS managed dataset or VSAM file without ALTER access to the dataset itself
 - Changing certain dataset catalog entry attributes without ALTER access to the dataset itself
 - Listing catalog and VSAM passwords (now ignored)
 - Performing catalog administration functions not governed by STGADMIN profiles
 - Opening the catalog as a dataset (must also have APF-authorization)

- ALTER access to the catalog along with READ access to FACILITY Class profile IGG.CATLOCK allows locking and unlocking of the catalog for copy and recovery processing

Catalog Authorization



- Common / Best Practices
 - UACC READ for Master Catalog
 - UACC UPDATE for User Catalogs (unless DSNAMES themselves are sensitive)
 - UACC equivalent entries in the Global Access Table
 - UPDATE granted to Master Catalog to users and processes managing datasets cataloged in the Master Catalog
 - ALTER granted to Catalog Administrators
 - ALTER granted to dataset cleanup processes (e.g., tape catalog maintenance routine)
 - UACC or ID(*) equivalent access permitted to an OPERATIONS authority blocking group
 - If RACF Administration maintains catalog aliases for TSO users, permit them READ access to FACILITY STGADMIN.IGG.DEFDEL.UALIAS instead of UPDATE to the Master Catalog to create aliases or ALTER to delete them

DASDVOL Profiles



- Controls who can manage and manipulate data on an entire DASD volume via certain software facilities
 - DFSMSdss ADRDSSU utility (non-SMS managed volumes)
 - DFSMSdfp DADSM Scratch Macro (non-SMS managed volumes)
 - ICKDSF utility
 - AMASPZAP utility VTOC Update

- General Resource
 - Classes - DASDVOL / GDASDVOL
 - Resource - DASD volume-serial number (e.g., SYS011)



ICKDSF - Access Levels & Authorities

Command / Function	DASDVOL Access Needed	Description
BUILDIX	ALTER	Builds VTOC index
INIT	ALTER	Initialize and formats a volume
INSPECT	ALTER	Checks for and flags defects
REFORMAT EXTINDEX	ALTER	Rebuilds index to expanded VTOC
REFORMAT EXTVTOC	ALTER	Expands VTOC in place
REFORMAT IPLDD	UPDATE	Changes IPL text
REFORMAT NEWVTOC	ALTER	Moves and expands VTOC
REFORMAT REFVTOC	ALTER	Rebuilds VTOC
TRKFMT	ALTER	Performs track functions (erase)

With INIT, INSPECT, & TRKFMT, dataset access authority is also checked if volume not defined to DASDVOL

DASDVOL profiles work in combination with FACILITY STGADMIN.ICK profiles; STGADMIN.ICK profiles govern the use of ICKDSF functions and DASDVOL limits the VOLSERS where these functions can be performed

A volume must be offline to initialize it, so restrict who can use the Operator VARY command to vary devices

offline by protecting OPERCMDS resources MVS.VARY.DEV and MVS.VARYFORCE.DEV

DASDVOL Profiles



DFSMSdss ADRDSSU - Access Levels & Authorities

FUNCTION		DASDVOL Access Needed		
Command	Volume	Full	Tracks	Dataset
BUILDSA	Target	UPDATE		
COMPRESS	Source			UPDATE
CONSOLIDATE	Source			UPDATE
COPY	Source	READ	READ	READ
	Target	ALTER	ALTER	UPDATE
COPY DELETE	Source			ALTER
	Target			UPDATE
DEFRAG	Source			UPDATE
DUMP	Source	READ	READ	READ
DUMP DELETE	Source			ALTER
PRINT	Source		READ	READ
RELEASE	Source			UPDATE
RESTORE	Source			READ
	Target	ALTER	ALTER	UPDATE

For RESTORE RENAME, must have READ access to dataset's original dsname (unless IMPORT is specified)

For DEFRAG, insufficient access abends the task with a system code of 913

DASDVOL Profiles



DASDVOL Authority	ICKDSF Command / Function	ADRDSU Command / Function	DADSM	AMASPZAP
ALTER	BUILDIX	COPY to target - Full / Tracks	Scratch	
	INIT	COPY DELETE from source - Dataset		
	INSPECT	DUMP DELETE		
	REFORMAT EXTINDEX	RESTORE to target - Full / Tracks		
	REFORMAT EXTVTOC			
	REFORMAT NEWVTOC			
	REFORMAT REFVTOC			
UPDATE	REFORMAT IPLDD	BUILDSA to target		VTOC Update
		COMPRESS - Dataset		
		CONSOLIDATE to source - Dataset		
		COPY to target - Dataset		
		COPY DELETE to target - Dataset		
		DEFRAG - Dataset		
		RELEASE - Dataset		
		RESTORE to target - Dataset		
READ		COPY from source - Full / Tracks / Dataset		
		DUMP		
		PRINT - Tracks / Dataset		
		RESTORE from source - Dataset		

DASDVOL Profiles



- Other products using DASDVOL profiles
 - FDR - backup/restore authorization by DASD volume
 - DITTO & File Manager
 - ❖ Control use of DITTO's and File Manager's functions to manipulate DASD datasets with full disk volume processing
 - ❖ Only applicable if product is running APF-authorized
 - ❖ prefix.DISK.FULLPACK (prefix = DITTO or FILEM)
 - READ - Read and update access to specific volsers
 - To read, requires READ to associated DASDVOL profile
 - To update, requires ALTER to associated DASDVOL profile
 - UPDATE - Read access to all volsers, update to specific ones
 - To update, requires ALTER to associated DASDVOL profile
 - ALTER - Read and update access to all volsers
 - ISMF - RAUTH - Remote access codes to a 3990 Control Unit
 - ❖ ALTER authority required to volume request is made against

DASDVOL Profiles



- Considerations
 - DASDVOL access authority supersedes dataset authority
 - ❖ Allows backup/restore without requiring dataset access
 - UPDATE access allows VTOC changes using AMASPZAP
 - ❖ Overrides requirement for console operator authorization
 - ALTER access allows use of DADSM Scratch to delete datasets
 - OPERATIONS authority grants ALTER level access

- DASDVOL profiles do not ...
 - Restrict who can allocate data on a DASD device
 - Grant access through other utilities or facilities (e.g., TSO)
 - Allow define or rename of RACF-indicated datasets
 - Apply to the manipulation of data on SMS-managed volumes
 - Log unsuccessful access attempts (dataset logging is applied)
 - Grant access to migrated datasets (dataset access required)

DASDVOL Profiles



- Common / Best Practices
 - Define a catch-all profile ** to cover all volumes
 - Restrict access to storage administration staff and processes
 - Block OPERATIONS authority with access-excluding group permit of NONE
 - RACLIST the DASDVOL class, especially if using GDASDVOL

- Recommended profile for comprehensive protection:

```
RDEF DASDVOL ** UACC(NONE)
PERMIT ** CLASS(DASDVOL) ID(stgadmin-group) ACCESS(ALTER)
PERMIT ** CLASS(DASDVOL) ID(operations-users) ACCESS(NONE)
[ PERMIT ** CLASS(DASDVOL) ID(backup-user) ACCESS(READ) ]
[ PERMIT ** CLASS(DASDVOL) ID(dr-restore-user) ACCESS(ALTER) ]
```

FACILITY Storage Admin Profiles



- Controls who can manage catalogs and data using DFSMS/MVS utilities and services
- General Resource
 - Class- FACILITY
 - Access level - READ - Perform Function (RMM uses various access levels)
 - Resources - STGADMIN.*service*(.STGADMIN | ENDUSER).*function/command*
 - ❖ STGADMIN.ADR.STGADMIN.*function* DSS - ADMINISTRATOR
 - ❖ STGADMIN.ADR.*command*[.parm] DSS
 - ❖ STGADMIN.ANT.*component*.*function* Data Mover
 - ❖ STGADMIN.ARC.ABACKUP[.parm] ABARS
 - ❖ STGADMIN.ARC.ARECOVER[.parm] ABARS
 - ❖ STGADMIN.ARC.ENDUSER.*cmd*[.parm] HSM - End-User
 - ❖ STGADMIN.ARC.*command*[.parm] HSM
 - ❖ STGADMIN.EDG.*function* RMM
 - ❖ STGADMIN.ICK.*command* ICKDSF
 - ❖ STGADMIN.IDC.*command*[.parm] IDCAMS
 - ❖ STGADMIN.IGG.*function* IDCAMS - SMS-managed entries

FACILITY Storage Admin Profiles



■ General Resource (Continued)

• Resources - STGADMIN.*service*(.STGADMIN | ENDUSER).*function/command*

- ❖ STGADMIN.DPDSRN.*oldname* IDCAMS
- ❖ STGADMIN.DMO.CONFIG SMS
- ❖ STGADMIN.IFG.READVTOC.*volser* DFP
- ❖ STGADMIN.IGD.ACTIVATE.CONFIGURATION SMS
- ❖ STGADMIN.IGWSHCDS.REPAIR IDCAMS
- ❖ STGADMIN.DMS.STGADMIN[.*function*] CA-DISK

■ Other related resources

- IGG.CATLOCK IGG - ICF Catalogs
- IHJ.CHKPT.*volser* Create checkpoints on shared DASD

FACILITY Storage Admin Profiles



- ADRDSSU utility ADMINISTRATOR keyword
 - Protected by STGADMIN.ADR.STGADMIN prefixed profiles
 - Supersedes dataset authority - allows operations without requiring dataset access permissions
 - Does not allow define or rename of RACF-indicated dataset

```
RLIST FACILITY STGADMIN.ADR.STGADMIN.RESTORE.RENAME AUTH
CLASS      NAME
-----
FACILITY   STGADMIN.ADR.STGADMIN.* (G)

LEVEL      OWNER          UNIVERSAL ACCESS    YOUR ACCESS    WARNING
-----
  00      TECH$RES              NONE                NONE            NO

INSTALLATION DATA
-----
STOR ADMIN FUNCTIONS - ADMIN KEYWORD RES

USER       ACCESS      ACCESS COUNT
-----
DASDMGT    READ
TECHSPT    READ
COMPOPRS   UPDATE
```

FACILITY Storage Admin Profiles



- Profiles where UACC other than NONE is acceptable or recommended

- STGADMIN.ADR.DEFRAG READ
- STGADMIN.ARC.LIST READ
- STGADMIN.ARC.LC.cpname READ
- STGADMIN.ARC.QUERY READ
- STGADMIN.IDC.DCOLLECT READ
- STGADMIN.IDC.DIAGNOSE.CATALOG READ
- STGADMIN.IDC.DIAGNOSE.VVDS READ
- STGADMIN.IDC.EXAMINE.DATASET READ
- STGADMIN.IDC.LISTDATA READ
- STGADMIN.IGG.DELGDG.FORCE READ
- STGADMIN.ARC.ENDUSER.** READ
- STGADMIN.EDG.MASTER READ
- STGADMIN.EDG.RELEASE READ
- STGADMIN.EDG.VRS READ
- STGADMIN.EDG.LABEL.volser UPDATE
- STGADMIN.EDG.NOLABEL.volser UPDATE
- STGADMIN.EDG.LISTCONTROL CONTROL

FACILITY Storage Admin Profiles



- When not defined to RACF, many functions can be executed by any user
 - Cannot use ADRDSSU ADMINISTRATOR keyword if no profile
- Common / Best Practices
 - Restrict access to storage administration staff and processes
 - Define profiles out to second node (service) (e.g., STGADMIN.ADR.**)
 - Define a catch-all STGADMIN.** with UACC(NONE) and no permits
 - Limit access to STGADMIN.DPDSRN.*oldname* (requires operator approval)
 - Strictly control authority to use ADMINISTRATOR keyword
- Considerations
 - During full volume restores, DFSMSdss does not create discrete profiles for RACF-indicated datasets
 - ADRDSSU can be set to ignore RACF-indicated bit on COPY DELETE or RESTORE operations using ADRPATCH Serviceability Aid flags
 - DFSMSdss functions that call catalog services or invoke IEBCOPY result in dataset authorization checks
 - ALTER access to a dataset is required to change its storage or management class even when permitted access to STGADMIN.IGG.ALTER.SMS

ISMF



```
Panel Help
-----
                ISMF PRIMARY OPTION MENU - z/OS DFSMS U1 R11
Enter Selection or Command ===> _____

Select one of the following options and press Enter:

0  ISMF Profile           - Change ISMF User Profile
1  Data Set              - Perform Functions Against Data Sets
2  Volume                 - Perform Functions Against Volumes
3  Management Class      - Specify Data Set Backup and Migration Criteria
4  Data Class             - Specify Data Set Allocation Parameters
5  Storage Class         - Specify Data Set Performance and Availability
9  Aggregate Group       - Specify Data Set Recovery Parameters
L  List                   - Perform Functions Against Saved ISMF Lists
R  Removable Media Manager - Perform Functions Against Removable Media
X  Exit                   - Terminate ISMF

F1=Help   F2=Split   F3=End   F4=Return   F7=Up   F8=Down   F9=Swap
F10=Left  F11=Right  F12=Cursor

Te█                                             R  4  C  34  TCP00001
```


ISMF Program Authorization



- ISMF provides ISPF panels and programs for interactively invoking DFSMS functions
 - ISMF programs include applications (i.e., panels), functions, and line commands
 - ISMF programs do not check FACILITY STGADMIN profiles
 - ISMF programs do not run APF-authorized or circumvent RACF dataset protection so users still require access to the datasets they attempt to act upon

- To control the use of ISMF, either ...
 - Restrict access to ISMF libraries to just the storage administrators
 - Limit access to individual ISMF programs

- User must be in 'Storage Administrator Mode' to perform high level management functions
 - Program DGTFPF05 changes the mode in the user's ISPF options dataset
 - Some installations choose to only protect program DGTFPF05
 - Simply protecting DGTFPF05 is not fool-proof; a knowledgeable user could manipulate option in own ISPF dataset

ISMF Program Authorization



- Options / Best Practices (Note: Installation library names may vary)
 - Protect ISMF program libraries - guard against copying
 - ADDSO 'SYS1.DGTLLIB' GEN UACC(NONE) DATA('ISMF DFSMS/DFP & DFSMS/DSS')
 - ADDSO 'SYS1.DFQLLIB' GEN UACC(NONE) DATA('ISMF DFSMS/HSM')
 - If use of ISMF is to be restricted to storage administrators ...
 - ❖ Permit storage administrators at least READ access to ISMF libraries
 - ❖ Do not put libraries in LINKLST
 - If use of ISMF is to be allowed to all users, PROGRAM protect ISMF programs
 - RDEF PROGRAM DGTxxxxx UACC(NONE) ADDMEM('SYS1.DGTLLIB'//NOPADCHK)
 - RDEF PROGRAM ACBFUTOn UACC(NONE) ADDMEM('SYS1.DGTLLIB'//NOPADCHK)
 - RDEF PROGRAM DFQFxxxx UACC(NONE) ADDMEM('SYS1.DFQLLIB'//NOPADCHK)
 - ❖ Implementation options, either ...
 - Define individual 'controlled' programs with UACC of NONE and access granted only to storage administrators, and leave all other programs open to anyone's use
 - Define individual programs all users are to be allowed to use with default access of READ and define catch-all profiles DGT*, ACBFUT*, and DFQF* to cover all other programs with UACC of NONE and access granted only to storage administrators
 - ❖ Put ISMF libraries in LINKLST to allow user execution

DFSMSHsm Considerations



- When the FACILITY class is active, DFSMSHsm command authority relies strictly on explicit permission to the profile covering each STGADMIN.ARC. resource - **No profile = No access**

- 'H'-prefixed ENDUSER commands require access permissions to the target datasets, at least ...
 - EXECUTE HRECALL
 - READ HRECOVER with NEWNAME to source dataset
 - UPDATE HBACKDS, HMIGRATE
 - ALTER HBDELETE, HDELETE, HRECOVER

- Administrator commands (e.g., RECALL) bypass dataset checking
 - Administrator commands are invoked from TSO via the HSEND CMD command
 - No RACF checking is performed for commands entered via the console

- If using RRSF to propagate commands, IBM recommends giving the DFSMSHsm Started Task ID on all recipient systems either ...
 - SPECIAL and OPERATIONS
 - TRUSTED

- If using DFSMSHsm to backup Unix HFS and zFS datasets, give its ID either ...
 - UPDATE access to UNIXPRIV resource SUPERUSER.FILESYS. QUIESCE
 - UID(0)

DFSMSHsm Considerations



- AUTH command
 - Defines (and removes) DFSMSHsm users and administrators
 - ❖ AUTH userid DATABASEAUTHORITY(CONTROL)
 - ❖ AUTH userid DATABASEAUTHORITY(USER)
 - ❖ AUTH userid REVOKE
 - Initially defined in PARMLIB(ARCCMDxx)
 - Can be issued by authorized users after initialization
 - Ignored if FACILITY class is active - except for unprotected ABARS commands

- SETSYS Command
 - Set DFSMSHsm options
 - ❖ RACFIND | NORACFIND - Retain RACF indicator bit on migrated dataset
 - ❖ PROFILEBACKUP | NOPROFILEBACKUP - Backup discrete profiles for later restore
 - Initially defined in PARMLIB(ARCCMDxx)
 - If discrete profiles not desired, change both to NO options

DFSMShsm Considerations



- ARCCATGP Group
 - Permits catalog operations on migrated datasets while bypassing automatic recall
 - User must be connected to and logged on under group
 - To avoid recall during deletion, DELETE command must be the first command for a dataset

- OPER User
 - Enable Console operators to issue ABACKUP and ARECOVER commands from the console - executed by HSM
 - Permit to STGADMIN.ARC.ABACKUP and/or ...ARECOVER profiles
 - Best practices
 - ❖ Define user OPER to RACF to reserve it
 - ❖ Make it PROTECTED
 - ❖ REVOKE if not needed
 - ❖ Do not use for other purposes
 - Can be set to a different ID with the PATCH command

DFSMShsm Considerations



- Aggregate Backup And Recovery Support (ABARS)
 - Comprehensive Authorization
 - ❖ All aggregates - bypass all dataset access authorization
 - ❖ STGADMIN.ARC.ABACKUP
 - ❖ STGADMIN.ARC.ARECOVER
 - Restricted Authorization
 - ❖ Specific aggregates - ABACKUP also requires at least READ access to all datasets
 - ❖ STGADMIN.ARC.ABACKUP.aggregate
 - ❖ STGADMIN.ARC.ARECOVER.aggregate
 - ❖ STGADMIN.ARC.ARECOVER.aggregate.REPLACE
 - ❖ STGADMIN.ARC.ARECOVER.aggregate.RENTGT

- Access checking
 - First checks authorization to restricted 'aggregate' resource
 - If disallowed, checks authorization to comprehensive resource
 - To enable use of comprehensive authority, disallow access to restricted 'aggregate' resources
 - ❑ STGADMIN.ARC.ABACKUP.* UACC(NONE)
 - ❑ STGADMIN.ARC.ABACKUP UACC(NONE) -&- PERMIT ID(backup-id) ACC(READ)

Miscellaneous Issues & Authorities



- CREATE (or greater) group connect authority
 - Allows creation of group datasets without ALTER authority
 - Allows creation of group dataset profiles

- Console Operator approval is required for certain functions
 - Required for updates to the following unless permitted by DASDVOL or ADRDSSU ADMINISTRATOR:
 - ❖ Volume Table of Contents (VTOC)
 - ❖ VTOC Index Dataset
 - ❖ VSAM Volume Dataset (VVDS)
 - ❖ Checkpoint / Restart Dataset
 - Operator only prompted once for first dataset encountered for one of the above types in processing a single command
 - Required to use ICKDSF to initialize (INIT) a volume with PURGE (delete all data)
 - Required to activate SMS configuration if FACILITY class resource STGADMIN.IGD.ACTIVATE.CONFIGURATION not protected by a RACF profile
 - Required with STGADMIN.DPDSRN.*oldname* to rename non-SMS dataset in use

Miscellaneous Issues & Authorities



- Program Properties Table (PPT) NOPASS authority bypasses all dataset authorization checking

- SMS data management and revoked USERID failures
 - When moving or restoring data, SMS attempts to validate the STORCLAS and MGMTCLAS for the USERID
 - ❖ SMS option - PARMLIB(IDGSMSxx) - ACSDEFAULTS(YES | NO) - YES activates RACF SMS interface
 - ❖ Check only occurs when STORCLAS or MGMTCLAS are active
 - Attempts to perform RACROUTE REQUEST=VERIFYX and fails due to revoked ID
 - Options
 - ❖ SMS option - PARMLIB(IDGSMSxx) - USE_RESOWNER=(YES | NO) - NO uses authority of initiating user rather than the dataset owner
 - ❖ ADRDSSU can be set to ignore revoked IDs using ADRPATCH Serviceability Aid flags

- Permitting SMS testing without ALTER access
 - Global Access Table entry
 - DATASET '*.*.*.#SMSTEST'/ALTER
 - SETR AUDIT(DATASET) still records dataset creation and deletion for monitoring

RACF Storage Administration Resources

FACILITY PROFILE	STORAGE ADMIN COMPONENT & COMMAND	NOTES
IGG.CATLOCK	IDCAMS Lock catalogs and access locked catalogs	
IHJ.CHKPT.volser	DFSMS Define checkpoints on shared DASD	
STGADMIN.ADR.CGCREATE	DFSMSdss CGCREATE	
STGADMIN.ADR.CONOLID	DFSMSdss CONSOLIDATE command	
STGADMIN.ADR.CONOLID.FLASHCPY	DFSMSdss FlashCopy with CONSOLIDATE	
STGADMIN.ADR.CONVERTV	DFSMSdss CONVERTV command	
STGADMIN.ADR.COPY.BYPASSACS	DFSMSdss BYPASSACS with COPY	
STGADMIN.ADR.COPY.CNCRUNT	DFSMSdss CONCURRENT with COPY	
STGADMIN.ADR.COPY.FCFREEZE	DFSMSdss FCCGFREEZE with COPY	
STGADMIN.ADR.COPY.FCFRR	DFSMSdss FCFASTREVERSERESTORE with COPY	
STGADMIN.ADR.COPY.FCSETGT	DFSMSdss FCSETGTOK	
STGADMIN.ADR.COPY.FCTOPPRCP	DFSMSdss FCTOPPRCPPRIMARY with COPY	
STGADMIN.ADR.COPY.FLASHCPY	DFSMSdss FlashCopy with COPY	
STGADMIN.ADR.COPY.INCAT	DFSMSdss INCAT with COPY	
STGADMIN.ADR.COPY.PROCESS.SYS	DFSMSdss PROCESS with COPY for SYS1 datasets	
STGADMIN.ADR.COPY.TOLERATE.ENQF	DFSMSdss TOLERATE(ENQF) with COPY	
STGADMIN.ADR.DEFRAG	DFSMSdss DEFRAG command	
STGADMIN.ADR.DEFRAG.FCTOPPRCP	DFSMSdss FCTOPPRCPPRIMARY with DEFRAG	
STGADMIN.ADR.DEFRAG.FLASHCPY	DFSMSdss FlashCopy with DEFRAG	
STGADMIN.ADR.DUMP.CNCRUNT	DFSMSdss CONCURRENT with DUMP	
STGADMIN.ADR.DUMP.INCAT	DFSMSdss INCAT with DUMP	
STGADMIN.ADR.DUMP.PROCESS.SYS	DFSMSdss PROCESS with DUMP for SYS1 datasets	
STGADMIN.ADR.DUMP.RESET	DFSMSdss RESET with DUMP	
STGADMIN.ADR.DUMP.TOLERATE.ENQF	DFSMSdss TOLERATE(ENQF) with DUMP	
STGADMIN.ADR.PATCH	DFSMS SET PATCH for ADRDSSU	
STGADMIN.ADR.RELEASE.INCAT	DFSMSdss INCAT with RELEASE	
STGADMIN.ADR.RELEASE.PROCESS.SYS	DFSMSdss PROCESS with RELEASE for SYS1 datasets	
STGADMIN.ADR.RESTORE.BYPASSACS	DFSMSdss BYPASSACS with RESTORE	
STGADMIN.ADR.RESTORE.DELCATE	DFSMSdss DELETACATALOGENTRY with RESTORE	
STGADMIN.ADR.RESTORE.IMPORT	DFSMSdss IMPORT with RESTORE	
STGADMIN.ADR.RESTORE.RESET.YES	DFSMSdss RESET(YES) with RESTORE	
STGADMIN.ADR.RESTORE.TOLERATE.ENQF	DFSMSdss TOLERATE(ENQF) with RESTORE	
STGADMIN.ADR.STGADMIN.BUILDASA	DFDSS BUILDASA command with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.COMPRESS	DFSMSdss COMPRESS with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.CONOLID	DFSMSdss CONSOLIDATE with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.COPY	DFSMSdss COPY with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.COPY.DELETE	DFSMSdss COPY DELETE with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.COPY.RENAME	DFSMSdss COPY RENAME with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.DEFRAG	DFSMSdss DEFRAG with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.DUMP	DFSMSdss DUMP with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.DUMP.DELETE	DFSMSdss DUMP DELETE with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.DUMP.NEWNAME	DFSMSdss DUMP NEWNAMEUNCONDITIONAL with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.PRINT	DFSMSdss PRINT with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.RELEASE	DFSMSdss RELEASE with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.RESTORE	DFSMSdss RESTORE with ADMINISTRATOR	
STGADMIN.ADR.STGADMIN.RESTORE.RENAME	DFSMSdss RESTORE RENAME with ADMINISTRATOR	
STGADMIN.ANT.ESFC.COMMANDS	DFSMSdss Enterprise Storage Server FlashCopy commands	
STGADMIN.ANT.ESFC.FCQUERY	DFSMSdss Enterprise Storage Server FlashCopy Query	
STGADMIN.ANT.PPRC.COMMANDS	DFSMSdss Advanced Copy PPRC commands	
STGADMIN.ANT.PPRC.CQUERY	DFSMSdss Advanced Copy PPRC Query	
STGADMIN.ANT.SNAPSHOT.COMMANDS	DFSMSdss Advanced Copy SNAPSHOT Commands	
STGADMIN.ANT.SNAPSHOT.SQUERY	DFSMSdss Advanced Copy SNAPSHOT Query	
STGADMIN.ANT.XRC.COMMANDS	DFSMSdss Advanced Copy XRC commands	
STGADMIN.ANT.XRC.XQUERY	DFSMSdss Advanced Copy XRC Query	
STGADMIN.ARC.ABACKUP	DFSMSShsm ABACKUP command	
STGADMIN.ARC.ABACKUP.agname	DFSMSShsm ABACKUP command	
STGADMIN.ARC.ADDVOL	DFSMSShsm ADDVOL command	
STGADMIN.ARC.ALTERDS	DFSMSShsm ALTERDS command	
STGADMIN.ARC.ALTERPRI	DFSMSShsm Prioritize Queued Requests	
STGADMIN.ARC.ARECOVER	DFSMSShsm ARECOVER command	
STGADMIN.ARC.ARECOVER.agname	DFSMSShsm ARECOVER command	
STGADMIN.ARC.ARECOVER.agname.RENTGT	DFSMSShsm ARECOVER command	
STGADMIN.ARC.ARECOVER.agname.REPLACE	DFSMSShsm ARECOVER command	
STGADMIN.ARC.AUDIT	DFSMSShsm AUDIT command	
STGADMIN.ARC.AUTH	DFSMSShsm AUTH command	
STGADMIN.ARC.BACKDS	DFSMSShsm BACKDS command	
STGADMIN.ARC.BACKDS.NEWNAME	DFSMSShsm BACKDS command	
STGADMIN.ARC.BACKDS.RETAINDDAYS	DFSMSShsm BACKDS command	
STGADMIN.ARC.BACKVOL	DFSMSShsm BACKVOL command	
STGADMIN.ARC.BDELETE	DFSMSShsm BDELETE command	
STGADMIN.ARC.CANCEL	DFSMSShsm CANCEL command	

RACF Storage Administration Resources

FACILITY PROFILE	STORAGE ADMIN COMPONENT & COMMAND	NOTES
STGADMIN.ARC.DEFINE	DFSMSHsm DEFINE command	
STGADMIN.ARC.DELETE	DFSMSHsm DELETE command	
STGADMIN.ARC.DELVOL	DFSMSHsm DELVOL command	
STGADMIN.ARC.DISPLAY	DFSMSHsm DISPLAY command	
STGADMIN.ARC.ENDUSER.HALTERDS	DFSMSHsm HALTERDS command	
STGADMIN.ARC.ENDUSER.HBACKDS	DFSMSHsm HBACKDS command	
STGADMIN.ARC.ENDUSER.HBACKDS.NEWNAME	DFSMSHsm HBACKDS command	
STGADMIN.ARC.ENDUSER.HBACKDS.RETAINDAYS	DFSMSHsm HBACKDS command	
STGADMIN.ARC.ENDUSER.HBACKDS.TARGET	DFSMSHsm HBACKDS command	
STGADMIN.ARC.ENDUSER.HBDELETE	DFSMSHsm HBDELETE command	
STGADMIN.ARC.ENDUSER.HCANCEL	DFSMSHsm HCANCEL command	
STGADMIN.ARC.ENDUSER.HDELETE	DFSMSHsm HDELETE command	
STGADMIN.ARC.ENDUSER.HLIST	DFSMSHsm HLIST command	
STGADMIN.ARC.ENDUSER.HMIGRATE	DFSMSHsm HMIGRATE command	
STGADMIN.ARC.ENDUSER.HQUERY	DFSMSHsm HQUERY command	
STGADMIN.ARC.ENDUSER.HRECALL	DFSMSHsm HRECALL command	
STGADMIN.ARC.ENDUSER.HRECOVER	DFSMSHsm HRECOVER command	
STGADMIN.ARC.EXPIREBV	DFSMSHsm EXPIREBV command	
STGADMIN.ARC.FB.cpname	DFSMSHsm FRBACKUP command	
STGADMIN.ARC.FD.cpname	DFSMSHsm FRDELETE command	
STGADMIN.ARC.FIXCDS	DFSMSHsm FIXCDS command	
STGADMIN.ARC.FR.cpname	DFSMSHsm FRRECOV command	
STGADMIN.ARC.FR.NEWNAME	DFSMSHsm FRRECOV command	
STGADMIN.ARC.FREEVOL	DFSMSHsm FREEVOL command	
STGADMIN.ARC.HOLD	DFSMSHsm HOLD command	
STGADMIN.ARC.LC.cpname	DFSMSHsm LIST with COPYPOOL	5
STGADMIN.ARC.LIST	DFSMSHsm LIST command	
STGADMIN.ARC.LOG	DFSMSHsm LOG command	
STGADMIN.ARC.MIGRATE	DFSMSHsm MIGRATE command	
STGADMIN.ARC.PATCH	DFSMSHsm PATCH command	
STGADMIN.ARC.QUERY	DFSMSHsm QUERY command	
STGADMIN.ARC.RECALL	DFSMSHsm RECALL command	
STGADMIN.ARC.RECOVER	DFSMSHsm RECOVER command	
STGADMIN.ARC.RECOVER.NEWNAME	DFSMSHsm RECOVER command with NEWNAME	
STGADMIN.ARC.RECYCLE	DFSMSHsm RECYCLE command	
STGADMIN.ARC.RELEASE	DFSMSHsm RELEASE command	
STGADMIN.ARC.REPORT	DFSMSHsm REPORT command	
STGADMIN.ARC.SETMIG	DFSMSHsm SETMIG command	
STGADMIN.ARC.SETSYS	DFSMSHsm SETSYS command	
STGADMIN.ARC.STOP	DFSMSHsm STOP command	
STGADMIN.ARC.SWAPLOG	DFSMSHsm SWAPLOG command	
STGADMIN.ARC.TAPECOPY	DFSMSHsm TAPECOPY command	
STGADMIN.ARC.TAPEREPL	DFSMSHsm TAPEREPL command	
STGADMIN.ARC.TRAP	DFSMSHsm TRAP command	
STGADMIN.ARC.UPDATEC	DFSMSHsm UPDATEC command	
STGADMIN.DMO.CONFIG	DFSMSopt BUILDIX command for Rapid Index Rebuild	
STGADMIN.DMS.STGADMIN	CA-Disk Storage Administration	
STGADMIN.DMS.STGADMIN.\$AUTORES	CA-DISK Storage Administration Command \$AUTORES	
STGADMIN.DMS.STGADMIN.ARCHDUMP	CA-DISK Storage Administration Command ARCHDUMP	
STGADMIN.DMS.STGADMIN.ARCHIVE	CA-DISK Storage Administration Command ARCHIVE	
STGADMIN.DMS.STGADMIN.ARCHIVE.NEWHLQ	CA-DISK Storage Administration Command ARCHIVE.NEWHLQ	
STGADMIN.DMS.STGADMIN.ARCHIVE.NEWNAME	CA-DISK Storage Administration Command ARCHIVE.NEWNAME	
STGADMIN.DMS.STGADMIN.BACKUP	CA-DISK Storage Administration Command BACKUP	
STGADMIN.DMS.STGADMIN.BACKUP.NEWHLQ	CA-DISK Storage Administration Command BACKUP.NEWHLQ	
STGADMIN.DMS.STGADMIN.BACKUP.NEWNAME	CA-DISK Storage Administration Command BACKUP.NEWNAME	
STGADMIN.DMS.STGADMIN.BACKUPCC	CA-DISK Storage Administration Command BACKUPCC	
STGADMIN.DMS.STGADMIN.BILLING	CA-DISK Storage Administration Command BILLING	
STGADMIN.DMS.STGADMIN.COMPRESS	CA-DISK Storage Administration Command COMPRESS	
STGADMIN.DMS.STGADMIN.COPY	CA-DISK Storage Administration Command COPY	
STGADMIN.DMS.STGADMIN.COPY.NEWNAME	CA-DISK Storage Administration Command COPY.NEWNAME	
STGADMIN.DMS.STGADMIN.DBACKUP	CA-DISK Storage Administration Command DBACKUP	
STGADMIN.DMS.STGADMIN.DEL3435	CA-DISK Storage Administration Command DEL3435	
STGADMIN.DMS.STGADMIN.DELETE	CA-DISK Storage Administration Command DELETE	
STGADMIN.DMS.STGADMIN.DERASE	CA-DISK Storage Administration Command DERASE	
STGADMIN.DMS.STGADMIN.DISPOSEA	CA-DISK Storage Administration Command DISPOSEA	
STGADMIN.DMS.STGADMIN.DISPOSER	CA-DISK Storage Administration Command DISPOSER	
STGADMIN.DMS.STGADMIN.DRESTORE	CA-DISK Storage Administration Command DRESTORE	
STGADMIN.DMS.STGADMIN.DRESTORE.\$AUTORES	CA-DISK Storage Administration Command DRESTORE.\$AUTORES	
STGADMIN.DMS.STGADMIN.DRESTORE.DNAME	CA-DISK Storage Administration Command DRESTORE.DNAME	
STGADMIN.DMS.STGADMIN.DRESTORE.INAME	CA-DISK Storage Administration Command DRESTORE.INAME	
STGADMIN.DMS.STGADMIN.DRESTORE.NEWNAME	CA-DISK Storage Administration Command DRESTORE.NEWNAME	

RACF Storage Administration Resources

FACILITY PROFILE	STORAGE ADMIN COMPONENT & COMMAND	NOTES
STGADMIN.DMS.STGADMIN.DSETMAP	CA-DISK Storage Administration Command DSETMAP	
STGADMIN.DMS.STGADMIN.EXPIRE	CA-DISK Storage Administration Command EXPIRE	
STGADMIN.DMS.STGADMIN.ISPF.ADSINDX	CA-DISK Storage Administration Command ISPF.ADSINDX	
STGADMIN.DMS.STGADMIN.ISPF.AQUEUED	CA-DISK Storage Administration Command ISPF.AQUEUED	
STGADMIN.DMS.STGADMIN.ISPF.CDSINDX	CA-DISK Storage Administration Command ISPF.CDSINDX	
STGADMIN.DMS.STGADMIN.ISPF.DDSINDX	CA-DISK Storage Administration Command ISPF.DDSINDX	
STGADMIN.DMS.STGADMIN.ISPF.DQUEUED	CA-DISK Storage Administration Command ISPF.DQUEUED	
STGADMIN.DMS.STGADMIN.ISPF.LDSINDX	CA-DISK Storage Administration Command ISPF.LDSINDX	
STGADMIN.DMS.STGADMIN.ISPF.LQUEUED	CA-DISK Storage Administration Command ISPF.LQUEUED	
STGADMIN.DMS.STGADMIN.IXCATLG	CA-DISK Storage Administration Command IXCATLG	
STGADMIN.DMS.STGADMIN.IXMAINT	CA-DISK Storage Administration Command IXMAINT	
STGADMIN.DMS.STGADMIN.IXUPDATE	CA-DISK Storage Administration Command IXUPDATE	
STGADMIN.DMS.STGADMIN.LOADLIB	CA-DISK Storage Administration Command LOADLIB	
STGADMIN.DMS.STGADMIN.MIGRATE	CA-DISK Storage Administration Command MIGRATE	
STGADMIN.DMS.STGADMIN.MOVE	CA-DISK Storage Administration Command MOVE	
STGADMIN.DMS.STGADMIN.RECOVER	CA-DISK Storage Administration Command RECOVER	
STGADMIN.DMS.STGADMIN.RECOVER.NEWHLQ	CA-DISK Storage Administration Command RECOVER.NEWHLQ	
STGADMIN.DMS.STGADMIN.RELEASE	CA-DISK Storage Administration Command RELEASE	
STGADMIN.DMS.STGADMIN.REPARCH	CA-DISK Storage Administration Command REPARCH	
STGADMIN.DMS.STGADMIN.REPORT	CA-DISK Storage Administration Command REPORT	
STGADMIN.DMS.STGADMIN.REPTAPE	CA-DISK Storage Administration Command REPTAPE	
STGADMIN.DMS.STGADMIN.RESTORE	CA-DISK Storage Administration Command RESTORE	
STGADMIN.DMS.STGADMIN.RESTORE.\$AUTORES	CA-DISK Storage Administration Command RESTORE.\$AUTORES	
STGADMIN.DMS.STGADMIN.RESTORE.DNAME	CA-DISK Storage Administration Command RESTORE.DNAME	
STGADMIN.DMS.STGADMIN.RESTORE.INAME	CA-DISK Storage Administration Command RESTORE.INAME	
STGADMIN.DMS.STGADMIN.RESTORE.NEWNAME	CA-DISK Storage Administration Command RESTORE.NEWNAME	
STGADMIN.DMS.STGADMIN.SEQMIG	CA-DISK Storage Administration Command SEQMIG	
STGADMIN.DMS.STGADMIN.VBACKUP	CA-DISK Storage Administration Command VBACKUP	
STGADMIN.DMS.STGADMIN.VRECOVER	CA-DISK Storage Administration Command VRECOVER	
STGADMIN.DMS.STGADMIN.VREPORT	CA-DISK Storage Administration Command VREPORT	
STGADMIN.DMS.STGADMIN.XCOPY	CA-DISK Storage Administration Command XCOPY	
STGADMIN.DPDSRN.oldname	IDCAMS rename non-SMS while in use	
STGADMIN.EDG.ACTIONS.action	DFSMSrmm Setting of Release Actions	
STGADMIN.EDG.AV.status.volser	DFSMSrmm Setting of Volume Status	
STGADMIN.EDG.CMOVE.ALL.ALL	DFSMSrmm Confirm global with subcommand CV CMOVE (ALL,ALL)	
STGADMIN.EDG.CMOVE.location.destination	DFSMSrmm Confirmation of moves and ejects.	
STGADMIN.EDG.CRLSE.action	DFSMSrmm Confirmation of Release Actions	
STGADMIN.EDG.CD.COPYFROM.dsname	DFSMSrmm Copy dataset attributed from one dataset to another	1
STGADMIN.EDG.CD.VX	DFSMSrmm Override VRSEL processing for a dataset	1
STGADMIN.EDG.CV.HOLD.volser	DFSMSrmm setting volume HOLD attribte	2
STGADMIN.EDG.CV.NOHOLD.volser	DFSMSrmm removing volume HOLD attribte	2
STGADMIN.EDG.CV.RM	DFSMSrmm Update volume retention attributes	2
STGADMIN.EDG.DV.SCRATCH.volser	DFSMSrmm Deletion of Scratch Volumes	
STGADMIN.EDG.EDGUPDT.UPDATE	DFSMSrmm EDGUPDT utility UPDATE function	
STGADMIN.EDG.FORCE	DFSMSrmm adding or deleting datasets	
STGADMIN.EDG.HOUSEKEEP	DFSMSrmm inventory management	
STGADMIN.EDG.HOUSEKEEP.RPTEXT	DFSMSrmm inventory management extract	
STGADMIN.EDG.IGNORE.TAPE.NORMM.volser	DFSMSrmm volume serial	
STGADMIN.EDG.IGNORE.TAPE.RMM.volser	DFSMSrmm volume serial	
STGADMIN.EDG.IGNORE.TAPE.volser	DFSMSrmm volume serial	
STGADMIN.EDG.INERS.WRONGLABEL	DFSMSrmm wrong label processing	
STGADMIN.EDG.INIT	DFSMSrmm Setting of INIT Action	
STGADMIN.EDG.LABEL.volser	DFSMSrmm tape labels	
STGADMIN.EDG.LIST	DFSMSrmm LIST command	
STGADMIN.EDG.LISTCONTROL	DFSMSrmm LISTCONTROL command	
STGADMIN.EDG.MASTER	DFSMSrmm control dataset access	
STGADMIN.EDG.MOVES.location.destination	DFSMSrmm Initiation of Moves and Ejects	
STGADMIN.EDG.NOLABEL.volser	DFSMSrmm unlabeled tapes	
STGADMIN.EDG.OPERATOR	DFSMSrmm initialize and erase	
STGADMIN.EDG.OWNER.userid	DFSMSrmm owned resources	
STGADMIN.EDG.RELEASE	DFSMSrmm DELETEVOLUME command	
STGADMIN.EDG.RESET.SSI	DFSMSrmm RESET facility	
STGADMIN.EDG.VRS	DFSMSrmm vital records	
STGADMIN.ICK.ANALYZE	ICKDSF ANALYZE command	
STGADMIN.ICK.BUILDIX	ICKDSF BUILDIX command	
STGADMIN.ICK.CONTROL	ICKDSF CONTROL command	
STGADMIN.ICK.CPVOLUME	ICKDSF CPVOLUME command	
STGADMIN.ICK.FLASHCPY	ICKDSF FLASHCOPY command	
STGADMIN.ICK.INIT	ICKDSF INIT command	
STGADMIN.ICK.INSPECT	ICKDSF INSPECT command	
STGADMIN.ICK.INSTALL	ICKDSF INSTALL command	

RACF Storage Administration Resources

FACILITY PROFILE	STORAGE ADMIN COMPONENT & COMMAND	NOTES
STGADMIN.ICK.IODELAY	ICKDSF IODELAY command	
STGADMIN.ICK.PPRCOPY	ICKDSF PPRCOPY command	
STGADMIN.ICK.REFORMAT	ICKDSF REFORMAT command	
STGADMIN.ICK.REVAL	ICKDSF REVAL command	
STGADMIN.ICK.TRKFMT	ICKDSF TRKFMT command	
STGADMIN.IDC.BINDDATA	IDCAMS BINDDATA command	
STGADMIN.IDC.DCOLLECT	IDCAMS DCOLLECT command	
STGADMIN.IDC.DIAGNOSE.CATALOG	IDCAMS DIAGNOSE command against catalogs	
STGADMIN.IDC.DIAGNOSE.VVDS	IDCAMS DIAGNOSE command against VVDS	
STGADMIN.IDC.EXAMINE.DATASET	IDCAMS EXAMINE command	
STGADMIN.IDC.LISTDATA	IDCAMS LISTDATA command	
STGADMIN.IDC.LISTDATA.ACCESSCODE	IDCAMS LISTDATA ACCESSCODE command	
STGADMIN.IDC.SETCACHE	IDCAMS SETCACHE command	
STGADMIN.IDC.SETCACHE.DISCARDPINNED	IDCAMS SETCACHE DISCARDPINNED command	
STGADMIN.IDC.SETCACHE.PENDINGOFF	IDCAMS SETCACHE PENDINGOFF command	
STGADMIN.IDC.SETCACHE.REINITIALIZE	IDCAMS SETCACHE REINITIALIZE command	
STGADMIN.IDC.SETCACHE.SUBSYSTEM	IDCAMS SETCACHE SUBSYSTEM command	
STGADMIN.IFG.READVTOC.volser	DFSMSdfp access to VTOC or VTOC index when MLSNAMES active	
STGADMIN.IGD.ACTIVATE.CONFIGURATION	DFSMS activate SMS configuration	
STGADMIN.IGG.ALTER.SMS	DFSMSdfp alter storage and management class	6
STGADMIN.IGG.ALTER.UNCONVRT	DFSMSdfp make VSAM dataset unmanaged	
STGADMIN.IGG.DEFDEL.UALIAS	DFSMSdfp delete alias	3,4
STGADMIN.IGG.DEFINE.RECAT	DFSMSdfp define recatalog datasets being merged to target catalog	3,4,7
STGADMIN.IGG.DEFNVSAM.NOBCS	DFSMSdfp define nonvsam with no BCS entry	3
STGADMIN.IGG.DEFNVSAM.NONVR	DFSMSdfp define nonvsam with no VVDS entry	3
STGADMIN.IGG.DELETE.NOSCRATCH	DFSMSdfp uncatalog but no scratch	3
STGADMIN.IGG.DELETE.RENAME	DFSMSdfp delete datasets flagged as rename in process	4
STGADMIN.IGG.DELGDG.FORCE	DFSMSdfp DELETE FORCE on gdg	3
STGADMIN.IGG.DELGDG.RECOVERY	IDCAMS delete GDG catalog entries	3
STGADMIN.IGG.DELNVR.NOBCSCHK	DFSMSdfp delete nonvsam NVR with no BCS check	3,4
STGADMIN.IGG.DIRCAT	DFSMSdfp direct request to specific catalog	3
STGADMIN.IGG.DLVVRNVR.NOCAT	DFSMSdfp delete VVR or NVR with no catalog	
STGADMIN.IGG.LIBRARY	DFSMSdfp manage volume entries in tape library	3
STGADMIN.IGWSHCDS.REPAIR	IDCAMS SHCDS functions	
Obsolete - No Longer Used:		
STGADMIN.IGG.ALTBCS	DFSMSdfp alter BCS catalog attributes (Obsolete as of z/OS 1.9)	
STGADMIN.ARC.FRBACKUP	DFSMSshsm FRBACKUP command (Obsolete as of z/OS 1.8)	
STGADMIN.ARC.FRBACKUP.cpname	DFSMSshsm FRBACKUP command (Obsolete as of z/OS 1.8)	
STGADMIN.ARC.FRDELETE	DFSMSshsm FRDELETE command (Obsolete as of z/OS 1.8)	
STGADMIN.ARC.FRDELETE.cpname	DFSMSshsm FRDELETE command (Obsolete as of z/OS 1.8)	
STGADMIN.ARC.FRRECOV	DFSMSshsm FRRECOV command (Obsolete as of z/OS 1.8)	
STGADMIN.ARC.FRRECOV.cpname	DFSMSshsm FRRECOV command (Obsolete as of z/OS 1.8)	
Invalid Resource Name - Manuals to be updated:		
STGADMIN.ADR.DUMP.NEWNAME	DFSMSdss NEWNAMEUNCONDITIONAL with DUMP	
STGADMIN.ADR.DUMP.NEWNAMEU	DFSMSdss NEWNAMEUNCONDITIONAL with DUMP	
Related Products Believed to be Obsolete and No Longer Offered:		
STGADMIN.DFSMSOPT.CANCEL	DFSMSopt HSM Monitor/Tuner CANCEL command	
STGADMIN.DFSMSOPT.GFTMONTR	DFSMSopt HSM Monitor/Tuner application access	
STGADMIN.DFSMSOPT.PROFILE	DFSMSopt updates to HSM Monitor/Tuner profile	
STGADMIN.DFSMSOPT.SWAPLOG	DFSMSopt swap HSM Monitor/Tuner logs	
STGADMIN.HMT.CANCEL	DFSMSshsm StorWatch HSM Monitor CANCEL command	
STGADMIN.HMT.GFTMONTR	DFSMSshsm StorWatch HSM Monitor application access	
STGADMIN.HMT.PROFILE	DFSMSshsm Change and Store a StorWatch HSM Monitor	
STGADMIN.HMT.SWAPLOG	DFSMSshsm Swap StorWatch HSM Monitor logs	
NOTES:		
1 - To protect this resource, a Generic profile must minimally start with 'STGADMIN.EDG.CD'		
2 - To protect this resource, a Generic profile must minimally start with 'STGADMIN.EDG.Cv'		
3 - No checked if caller is using a system key or running in supervisor state		
4 - Checked with RACROUTE option LOG=NONE		
5 - For LIST COPYPOOL, checked when a cpool name is specified; otherwise, STGADMIN.ARC.LIST is checked		
6 - Requires ALTER access to dataset whose storage or management class is to be changed		
7 - Requires ALTER to source/target catalog for REPRO MERGECAT; requires UPDATE to target catalog for DEFINE RECATALOG		