

Tape authorization for DB2 RESTORE SYSTEM utility

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DB2 for z/OS Version 9.1 (called hereafter DB2 9) introduced the ability of the BACKUP SYSTEM utility to dump either the source DB2 volumes to the DFSMSHsm copy pools and to tape or to dump the copy pools to tape. The RESTORE SYSTEM utility can be used to restore the same data. (A prerequisite for RESTORE SYSTEM is that the user has restored the DB2 logs necessary for the restoration and log apply of the database copy pool).

Prior to running Restore System, the user must unallocate any ICF catalogs that have been included in the copy pools. This step is necessary in order for the ICF catalogs on the copy pools to be restored.

- o Example of z/OS console command: `f catalog,unallocate(xxxx.user.catalog)`

Rarely, RESTORE SYSTEM has failed for a few users by allocating an ICF catalog whose volume has not yet been restored. (There is no way to order the Backup System such that the first volumes restored contain ICF catalogs).

As it turns out, the causative factor is the authorization needed for DFSMSdss, which is invoked by RESTORE SYSTEM when tape is the input.

It is necessary for the submitter of RESTORE SYSTEM to have two RACF authorities: Operations and DASDVOL as shown:

- o ATTRIBUTES=OPERATIONS
- o This snippet shows how to set the DASDVOL authority.

```
SETROPTS GENERIC(DASDVOL)
REDEFINE DASDVOL * UACC(ALTER)
SETROPTS CLASSACT(DASDVOL)
SETROPTS GENERIC(DASDVOL) REFRESH
```

(it can be restricted to specific IDs as it gives permission to restore any volume)

If the submitter does not have this authority, DFSMSdss resorts to data-set level checking and allocates the ICF catalogs for every data set on every volume to determine if the submitter can restore the data set. It is likely the RESTORE SYSTEM will fail.

Note: When the database copy pools are restored to the source DB2 volumes (DASD-DASD) RESTORE SYSTEM invokes DFSMShsm. An FRRECOV hsm command is issued internally for the Fast Reverse Restoration. DFSMSHsm checks that the submitter of the job has authority for FRRECOV. Thus, a Restore System from DASD does not require Operations or DASDVOL authority.

The following is a brief summary of recommendations for the contents of both the database copy pool and the log copy pool when BACKUP SYSTEM is implemented. The finest granularity is the SMS storage group. The entire contents of a storage group are copied to the SMS backup storage group defined in the copy pool. Do not mix data from another DB2 in the storage groups. Do not add other non-DB2 data sets (VSAM, TSO etc).

Database Copy Pool can have multiple SMS storage groups:

1. User data
2. Catalog/directory
3. ICF catalogs containing only definitions for
 - o All user data
 - o Catalog/directory
4. Storage groups for additional extents if not included in above

Log Copy pool can also have multiple SMS storage groups:

1. Active logs
2. BSDS
3. ICF catalogs containing only definitions for above
4. Volumes containing only additional extent definition for above

Expect to need more storage groups than if BACKUP SYSTEM is not used

Do not include DB2 program libraries. For a disaster recovery solution, the z/OS team usually includes them along with the proper SMP/E data sets (in case a missing PTF need be applied). Locally, the libraries already exist.