

## OTHER FUNCTIONS

Other miscellaneous Spool Organizer functions are documented here.

### *Rebuilding Damaged Data Queues*

Spool Organizer uses several data queues during its processing. OS/400 can damage data queues if it halts abruptly, for example during a power failure. The **RCTSPORQ** (Recreate Spool Organizer Data Queues) command will recreate non-Monitor data queues that are deleted or damaged. Refer to Chapter 5 “Define Monitors”, section “Damaged Data Queues” to rebuild data queues associated with a Monitor. The user can use the **RCTSPORQ** command to rebuild deleted/damaged queues. The following data queues can be recreated:

BRODERICK/BDSUSRPRF  
BDSDATA/BSOBDLMGR  
BDSDATA/BSOIDXMR

For each data queue selected, the RCTSPORQ command will do the following:

Attempt to delete the data queue  
Recreate the data queue  
Change the owner to QSECOFR

Note: The administrator may choose to delete/restore the damaged data queue from a backup or from the Spool Organizer media.

To rebuild data queues, end the function that has the problem or end all Spool Organizer functions and subsystem BDS. From a command line, enter the **RCTSPORQ** command and press **F4**. Select the queues to recreate by selecting **\*YES** and press **ENTER**. Check the job log to make sure the queues are created properly.

### *Migrating Archive Tape Considerations*

Occasionally an installation must migrate tapes to new tape volumes; for example after purchasing newer tape hardware. The installation will typically duplicate the old tapes’ data onto new tapes, and then disconnect the old tape hardware after the migration is complete. Spool Organizer archive tapes can be migrated in this fashion. BDS recommends the volume ID of the new tape be kept the same as the old tape if possible. If not, the administrator may need to migrate the Archive Catalog to reflect the new tape volumes. See the MGRCATE command below for more information.

Newer tape formats typically have more capacity than the old tapes, and administrators may wish to combine several old tapes into one new tape. Spool Organizer can support the combining of several tapes into one, with some considerations:

- **Duplicate Dataset Names:** The administrator should use care when copying multiple tape

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datasets with the same name onto the same tape. Tapes support duplicate names on a volume (you specify a different sequence number) but not all Spool Organizer functions support a sequence number. For example, the DPARCE command will allow the user to specify a sequence number but the Archive Catalog does not store sequence number information (the sequence number would change during the migration anyway) and can only access the first dataset on a tape volume with a given name.

- **Multivolume Files:** If a tape dataset spans multiple volumes, care must be taken that all of the volumes in the string are copied to the new tape(s). Contact IBM support for more information.
- **Archive Catalog:** If you change the tape Volume ID's when you migrate the tapes and you use the Archive Catalog to track spool entries on tapes, you must update the tape volume and device information. See the MGRCATE command below for more information.

The MGRCATE (Migrate Catalog Entries) command allows the administrator to change Archive Catalog entries' Volume ID and Device Description attributes to match the new tapes. The MGRCATE command has the following parameters:

## **Old Tape Volume Identifier (OLDVOL) Parameter**

Specifies the tape Volume Identifiers to change. Specify up to 5 volume identifiers. If an Archive Catalog entry contains any of the specified volume identifiers it will be changed to the values specified below.

## **New Tape Volume Identifier (NEWVOL) Parameter**

Specifies the new tape Volume Identifiers. The new volume list will completely replace the old volume list, even if only one of the OLDVOL entries matches the Archive Catalog entry. Specify up to 5 volume identifiers or one of the following:

\***SAME:** Specifies that the Volume Identifier attributes of the Archive Catalog entry will not be changed.

## **New Device Name (NEWDEV) Parameter**

Specifies the new Device Name attribute for the Archive Catalog entry. The specified device must exist on the system.

\***SAME:** Specifies that the Device name attributes of the Archive Catalog entry will not be changed.

## ***Change Online Entries (CHGSOENT) Command***

The CHGSOENT command will change multiple Online Database, Archive Catalog and Optical Catalog entries. The user enters a Stored Search Spec to define the entries to change, and the fields and values to change. The command can be run while Spool Organizer functions are active. Following is the screen and parameters of the CHGSOENT command.

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Change OLDB, ArcCat, OptCat (CHGSOENT)	
Type choices, press Enter.	
Stored Search Spec Name . . . . . _____	Character value, *DFT
Stored Search Spec User ID . . . . . <u>*USRPRF</u>	Name, *USRPRF, *PUBLIC
User Remark . . . . . _____	<u>*SAME</u>
Read Security Classes . . . . . <u>*SAME</u>	Character value, *SAME...
+ for more values _____	
Change Security Classes . . . . . <u>*SAME</u>	Character value, *SAME...
+ for more values _____	
Online Database Period . . . . . <u>*SAME</u>	*SAME, *BLANK, DT, ...
Online Database Value . . . . . <u>*SAME</u>	Number, *SAME
Arc/Opt Database Period . . . . . <u>*SAME</u>	*SAME, *BLANK, DT, ...
Arc/Opt Database Value . . . . . <u>*SAME</u>	Number, *SAME
Log operations . . . . . _____	<u>*SAME</u>
Group Profile Name . . . . . _____	Name, *SAME, *NONE
User-written exit program. . . . . _____	Name, *NONE
	<u>*LIBL</u> _____ Name, *LIBL
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display	
F24=More keys	

## Stored Search Spec Name (SRCHSPEC) Parameter

Specifies the **Name** of the Stored Search specifications to be used when determining spool entries to change. Only spool entries that meet the specifications will be changed. For more information on defining Stored Search Specifications, refer to Chapter 24, "Display Online Spool Entries".

**\*DFT:** The default Stored Search Spec for the specified User ID will be used.

## Stored Search Spec User ID (SRCHUSER) Parameter

Specifies the **User ID** of the Stored Search specifications to be used when determining spool entries to change. Only spool entries that meet the specifications will be changed. For more information on defining Stored Search Specifications, refer to Chapter 24, "Display Online Spool Entries".

**\*USRPRF:** The current user profile will be used.

## User Remark (USERRMK) Parameter

Specifies the new User Remark value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

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## **Read Security Classes (READSEC) Parameter**

Specifies the new Read Security Classes value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

**\*BLANK:** The value will be blank.

## **Change Security Classes (CHANGESEC) Parameter**

Specifies the new Change Security Classes value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

**\*BLANK:** The value will be blank.

## **Online Database Period (OLPRD) Parameter**

Specifies the new Online Database Period's value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

**\*BLANK:** The value will be blank.

**DT:** The value will be Date.

**ND:** The value will be Number of Days.

**NM:** The value will be Number of Months.

**NY:** The value will be Number of Years.

**ME:** The value will be Month End.

**QE:** The value will be Quarter End.

**YE:** The value will be Year End.

## **Online Database Value (OLVAL) Parameter**

Specifies the new Online Database Value's value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

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## **Arc/Opt Catalog Period (ARCPRD) Parameter**

Specifies the new Archive or Optical Catalog Period's value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

**\*BLANK:** The value will be blank.

**DT:** The value will be Date.

**ND:** The value will be Number of Days.

**NM:** The value will be Number of Months.

**NY:** The value will be Number of Years.

**ME:** The value will be Month End.

**QE:** The value will be Quarter End.

**YE:** The value will be Year End.

## **Arc/Opt Catalog Value (ARCVAL) Parameter**

Specifies the new Archive or Optical Catalog Value's value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

## **Log Operations (LOGOPER) Parameter**

Specifies the new Log Operations value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

**\*YES:** The value will be yes.

**\*NO:** The value will be no.

## **Group Profile Name (GRPPRF) Parameter**

Specifies the new Group Profile Name value. This parameter is ignored if a user-written exit program is specified.

**\*SAME:** The value will not be changed.

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**\*NONE:** The value will be \*NONE.

## **User-written exit program (EXITPGM) Parameter**

Specifies the name of the user-written exit program to call. The specified program will be called for each selected entry, and will pass back a return code which tells the command to how to process the entry. The exit program should make any changes to the record image. Source file BSOSRC, member BSOSX1 contains an example user exit program. Refer to member BSOSX1 for more information.

If an exit program is specified, the USERRMK, READSEC, CHGSEC, OLPRD, OLVAL, ARCPRD, ARCVL, LOGOPER AND GRPPRF parameters are ignored.

**\*NONE:** No exit program will be called.

## ***Online Database Entries Mass Change API***

The administrator may need to change a large number of Online Database entries. For example, he may want to keep invoices in the Online Database for 2 years instead of 1 year. The Spool Organizer BSOMCOLE API can be called by a user-written program to change Online Database entries.

Source member MASSCHG in file BSOSRC shows an example program that reads the Online Database headers file BSOOLH, selects via program logic records it wants to change, and calls the API BSOMCOLE program to make the changes. Refer to member MASSCHG for more information.

**Note:** Do not change the data in file BSOOLH. Spool Organizer keeps a copy if the BSOOLH record image in the file BSOOLD, and compares the two when accessing the spool entry. If the two do not match the entry is considered damaged and will not be processed by Spool Organizer.

## ***DR/HA (Mirroring) Considerations***

Mirroring is the process in which OS functions automatically copy an application's data from the production system to a second (DR/HA) system. Administrators can switch users over to the DR/HA system if the production system becomes unavailable. Spool Organizer can be mirrored. The entire Spool Organizer product is contained in 4 containers:

Library BRODERICK  
Library BDSDATA  
Library BDSBASE  
IFS subsystem /BRODERICK/SPOR40

The containers BRODERICK, BDSBASE and /BRODERICK/SPOR40 do not contain user data. They only contain program objects and temporary data. Thus you do not need to mirror them on a continuing basis. However, we recommend you do mirror them because the required bandwidth to do so is light. You only need to sync these containers on the production and DR/HA systems after you perform an update to

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Spool Organizer.

You must mirror all objects in library BDSDATA. You will have big problems if you skip any objects. For example, if you feel the need to skip objects due to bandwidth problems, please remember that you are having bandwidth problems because you are mirroring a lot of changes in our data that you will want on the target system.

## Product Updates:

To update Spool Organizer in a mirroring environment, we recommend you stop mirroring, perform the update to the production system, then re-synchronize the production and DR/HA systems. We recommend you synchronize by clearing the containers on the DR/HA system (CLRLIB, etc.), then move the production containers to the DR/HA system using save/restore commands (SAVLIB, SAV, RSTLIB, RST). Once the synch is complete, restart the mirroring process.

## *Spool Data Encryption to Hard Disk, Backup Devices*

Spool Organizer can optionally encrypt spool entry data segments when writing data to I-O devices during the following operations:

- Online Database
- Archives to Tapes, Optical Disks and ARCFILes
- Bundling
- Email Sent Mail Log

Spool Organizer uses the industry standard AES encryption. This insures that sensitive user data contained in spool entries is not stored in a clear format when residing on disk drives or backup units. Disk Encryption is transparent to users. Users will not need to know encryption passwords to access spool entries via Spool Organizer functions.

To stop or start Disk Encryption, run the **BSOSETUP** (Tailoring Options) command and set the Disk Encr Key/IV values. Refer to Chapter 9, Define Tailoring Options for more information. After changing Disk Encr Key/IV values, you must restart Monitors, the Bundle Manager and the Index Manager for the changes to take effect. Changes will only affect new entries (Online Database, etc.). Existing entries will not be affected.

To change the encryption mode of existing entries, use the **CHGDSKENC** (Change Disk Encoding) command. Prior to running the **CHGDSKENC** command, run the Tailoring Options (**BSOSETUP**) command and set the Disk Encr Key/IV values. No other Spool Organizer operations can be running while the **CHGDSKENC** command is executing. A quick estimate of the **CHKDSKENC** completion time is 4 times the amount of time it takes to save library **BDSDATA**. We recommend you back up library **BDSDATA** prior to running the **CHGDSKENC** command.

**Note:** the **CHGDSKENC** command will not affect Online Database entries that are already written to backup media (tape, ARCFILe, etc.).

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When Archived Online Database entries are written to backup media, their disk encryption mode is preserved. For example, encrypted Online Database entries will be encrypted on the tape. Once written to backup media, the entry's encryption mode cannot be changed. If archived spool entries are restored back to the Online Database, their encryption mode will be preserved. Once restored back into the Online Database, the spool entries can be encrypted/decrypted by the **CHGDSKENC** command.

The amount of CPU resources required for encryption can be significant. In a simple benchmark of a 2000 page report placed into the Online Database, the non-encrypted job took 57 seconds and used 0.5 seconds CPU. The encrypted job took 63 seconds and used 8 seconds CPU.