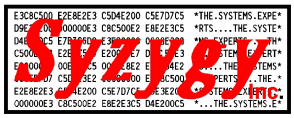


SyzSpool
Version 4
Product Manual

Version 4.05.01

May 23, 2010

What's New in this V4.5 release?

Welcome to Version 4.05.01:

- Non-SMS processing has been enhanced. Several new parameters were added including MAXRET, RETAIN, RE, RJ, RS, RT, which all relate to RETAIN values that can be set on the SyzSPOOL output. This change was performed in preparation for version 5.0.0's new output sync processing which will operate at sites without HSM or FDR/ABR.

- A new parameter DETAIL, has been added to display addition information in the SyzSPOOL log related to SMS and non-SMS data that has been set in the output during creation. This information is also useful at times when SyzSPOOL is trying to use SMS overrides, and the local customer site is not allowing the overrides. The "actual" set information after the dataset is created is displayed, which "may" be different from that which SyzSPOOL settings had desired.

- A new parameter ORIGIN has been added which allows the limit of selection criteria to be by the JES NJE node that the selected JOBs must have been submitted on to be one of the valid selection criteria.

- A New parameter PRMODE has been added which allows the selection of output based on the Process Mode (PRMODE) of the output.

- Multiple low impact product software errors have been resolved.

Welcome to Version 4.05:

- The SyzSPOOL VSAM Journal file has been increased in size from 200 to 255 bytes. This will allow for the implementation of new features and to record last use of datasets.

- Increased speed of output creation by base code.

- Reduction in time that the VSAM Journal must be open to the base in "UPDATE" mode. This reduces overhead and allows the ISPF and WEB interfaces better access to the file and other code that was implemented reduces the lock held by the base to just a single record instead of an entire CI/CA.

What's New in this V4.4 release?

Welcome to Version 4.04:

- Corrected formatting of the output dataset when JES makes an error in alloaction.
- Reduction in overhead for ISPF interface.

What's New in this V4.3 release?

Welcome to Version 4.03:

- SyzSpool now has a WEB interface that allows authorized users access to the spooled output from any supported web browser (Internet Explorer, Firefox, etc.) without any external software necessary on the client (Browser) side. This allows users to access their output from almost anywhere any time.

- The Email interface has been enhanced to allow more types and options, as wwll as a more streamlined set of panels to provide the information on where you want the email to go.

- Additional and changed ISPF/PDF interface panel commands.

- Enlarged VSAM Journal file. Creates additional user space and provides for planned enhancements of Version 5.

- Product now shows countdown of time left on the license, and is highlighted at important intervals, previously the product warned at the final 30 days, but did not specify exactly how much time was left, only the end date.

- User modifiable (currently 3.5 seconds) delay for displaying the list of output to be selected from.

What's New in this V4.2 release?

Welcome to Version 4.02:

- Changed selection options for the ISPF/PDF interface.
- New interface to allow for changed Management class based on the name or other criteria of the JOB at dataset creation time. A table is built with the selections and is parsed at allocation time to override any defaults or previous selections.
- All static startup parms have been changed to allow dynamic change of those parms from the operator console.
- Implementation of SyzVSAM external API for accessing the Journal file from alternative environments.
- Removal of limitations on total number of job output datasets under SyzSpool control. (was 999,999).

What's New in this V4.1 release?

Welcome to Version 4.01:

- Faster Spool transfer. The spool access and load function has been rewritten to use a faster decision process. Blank space is not transferred, and a new compaction method was implemented. Partially implemented in version 3.01, this code completes the integration and should result in noticeably faster transfer time.

- All Off-Load criteria can now be modified without stopping and restarting the product. Obviously, the dynamic changes are not maintained after the product is stopped, so you may want to make sure you have also changed the startup parms for the next time. The good news is that you don't have to start multiple processes or stop/start the product to change ANY of the parameters.

- Set offloaded dataset management class individually or generically by task name. This new feature extends the old management class setting capabilities beyond just setting a different management class based on the "type" of output (JOB, STC, TSU, etc.), now you can set the management class by using the new "TE" (Task Entry) settings. You can specify as many as you wish (Up to 1,000 different ones without a special SPE update), and you can specify using the standard generic characters of '%' and '*'. The entries are automatically sorted as they are read from the startup or entered dynamically, so you don't have to worry about getting things in the correct sequence. You still have to worry about spelling though.

- The ISPF interface has been greatly enhanced in this new version:
  - Enhanced detail information in the Information/selection option.
  - Changes and additions to the selection ACTION characters.
  - Browse, Print or Email from the JOB selection panel.
  - New "?" sub-option to display individual DD entries for the task.
  - Browse, Print the individual DD pieces, (instead of the whole JOB).
  - Email integration allows use to email the sysout data as an attachment in any of the following formats:
    - HTML
    - TEXT
    - PDF
    - RTF (Word)
    - CSV
    - BIN
    - ICAL
    - XMIT
    - ZIP
    - PDF then ZIP
    - HTML then ZIP

    - TEXT then ZIP
    - RTF then ZIP
    - CSV then ZIP
    - BIN then ZIP
    - ICAL then ZIP

- Use existing user RACF dataset rules via ICHNCONV exit. This allows you to maintain a single set of RACF rules, instead of one for your “standard” user datasets and one for the SyzSpool ones that start with “PRT.** or SPL.**”.

Overview:

The SyzSpool utility is designed to provide the computer center with the capability of selectively off loading the data from the JES2 or JES3 spool volumes under a large number of user-specified rules. SyzSpool provides a ISPF and (as of Version 4.3) a WEB interface to view the output and statistics relative to the output, as well as providing a mechanism to Re-Print or send that output via Email. Using SyzSpool, it is possible to completely manage the JES2 or JES3 spool output so that the site no longer has to "PRINT EVERYTHING" just because they don't want to run out of spool space. SyzSpool can be used to migrate spool data (output) from the JES2 or JES3 spool volumes to individual sequential datasets that are placed under complete control of system Managed Storage constructs and thus can be managed via IBM's HSM product or Innovation DP's FDR/ABR product so that the output can be retrievable for a much longer period of time without taking up valuable DASD resources.

The data center's spool output never leaves the control of the sites Security product (i.e. RACF, ACF/2, Top Secret), so there is complete security control for the output at all times.

The SyzSpool managed datasets can be converted to PDF format, can be sent to users via Email or via FTP, or can be migrated back tot he JES2 or JES3 spool for additional processing or local/remote printing.

Full statistics (including Maximum Condition Code and Abend Codes) are maintained on the datasets processed via SyzSpool, and are accessible via a provided interface. Additionally normal SMF records are created by JES on behalf of SyzSpool and the site can designate that SyzSpool create additional SMF records with additional information on each JES output that is processed.

A feature of SyzSpool that is not available for normal output processing by JES2 or JES3 is the output processing notify facility. Users that "own" JES spool output that is identified to have a NOTIFY parameter will receive a TSO notify of the disposition of the output, and additionally the user can be set up to receive an Email as well or instead of that NOTIFY message.

Spool output can be processed by specific attributes like AGE, DESTINATION, JOBNAME, the USER that submitted the JOB, or any of several other attributes (described later). Using SyzSpool, the data center can set the spool management to a "set it and forget it mode" so that not only can the spool volumes not fill up easily, but the site can reduce the volume of output that is actually printed to physical printers, and since the output is managed in hierarchical storage, it can be retained in it's original format for any user specified amount of time.

INSTALLATION INSTRUCTIONS:

STEP 1:

The software you have ordered is attached to this E-Mail communication as a .ZIP file. You should save or copy this file to a suitable directory on your PC.

STEP 2:

Use PKZIP or some other ZIP/UNZIP program to unzip the file to the same directory. You will thereby obtain a EBCDIC format file with the following name structure:

software.XMI and software.WEBPAX.PAX where "software" is the name of the name of the Licensed Software Product that you have ordered.

STEP 3:

Pre-allocate the receiving XMIT file ON YOUR MAINFRAME

You will need to perform this step for each of the files that you received for this product

Pre-allocate a file on MVS (e.g. 'userid.software.xmit') with the following DCB.
Space: 1 Cylinder
Organization : PS
Record format : FB
Record length : 80
Block size : 3120

STEP 3.1:

Pre-allocate a PAX container file ON YOUR MAINFRAME

Pre-allocate a PAX container file on MVS (e.g. 'userid.webpax.pax') with the following DCB.
Space: 1 Track
Organization : PS
Record format : FB
Record length : 1 <— Yes it's really just 1 byte
Block size : 23778

STEP 4:

Upload the software.XMI file from your PC to YOUR MAINFRAME.

Using FTP or the file transfer component of your TCP/IP telnet emulator, specifying BINARY transfer, upload the "software.XMI" file to your mainframe. You should pre-allocate the destination dataset as outlined in STEP 3 because some mainframe site configurations do not automatically allocate the proper format container for the uploaded XMIT file.

Note: BE SURE TO USE BINARY FILE TRANSFER, DO NOT USE ASCII TRANSLATION.

STEP 4.1:

Upload the software.WEBPAX.PAX file from your PC to YOUR MAINFRAME.

You should now use the same procedure to copy the PAX file to the WEBPAX dataset you created in the previous step.

Note: BE SURE TO USE BINARY FILE TRANSFER, DO NOT USE ASCII TRANSLATION.

STEP 5:

Receive the XMIT file to create the Installation PDS.

On your MAINFRAME do a RECEIVE command on the uploaded XMIT file from step 4 as follows:
(*note If operating under ISPF use panel option 6, or exit ISPF to TSO READY state.)

RECEIVE INDATASET('userid.software.xmit')

***where 'userid.software.xmit' is the pre-allocated file in STEP 3.

After doing the above command you will be prompted with something similar to the following:

INMR901I Dataset DATA.SET.NAME from userid on ????????
INMR906A Enter restore parameters or 'DELETE' or 'END' +

at this prompt you should enter:

DA('userid.software.instlib')

... where "userid.software.instlib" will be a new installation CNTL PDS that you have selected which will contain all of the datasets and modules required for the correct operation of the licensed software that you have ordered. Do not pre-allocate this dataset.

PLEASE BE SURE TO CHOOSE A NAME THAT DOES NOT ALREADY EXIST AND WHICH WILL BE RACF ACCESSIBLE BY YOU. We suggest that you use your TSO userid as the HLQ (High Level Qualifier) to assure RACF permission.

*Note: Some mainframe sites will default to a PUBLIC volume if DF/SMS is not set up properly. If your site falls into this category, you might want to use the following format of the response to keep your dataset from being allocated to your WORK volumes and being scratched before you are ready:

DA('userid.software.instlib') VOL(volser) UNIT(unitname)

*** where "volser" is a DASD volume at your site (e.g. TSO001) and "unitname" is the esoteric unitname which governs that volser (e.g. SYSALLDA or 3390).

STEP6:

The following steps are documented in the $$DOC member of the Installation Library you just finished loading. The Library referred to in all of the 6.x sub-steps are the same one you just created (HLQ.INSTALL).

****
*** NOT ALL STEPS MAY BE REQUIRED FOR YOUR SITE ****
****

Step 6.1: Receive the SyzSpool user datasets

- RECEIVE -

To execute the RECEIVE member issue
"TSO EXEC 'hlq.INSTALL(RECEIVE)' EXEC"
This will create the rexx, panels, skeleton, messages, web services PAX file and executable module libraries and place you in ISPF Browse on some key members.

Step 6.2: Define a User Catalog for SyzSpool use

- DEFUCAT -
If you do not already have a User Catalog to use for the SyzSpool offload datasets, use the hlq.INSTALL(DEFUCAT) job to create a new one. By way of example, 150 3390 Cylinders will allow your site to maintain well over 500,000 SyzSpool datasets.

Note: Syzygy recommends that you designate a separate User Catalog to hold the SyzSpool entries.

This job also will define the alias that you have selected for your SyzSpool datasets to be prefixed with. You may only use any 3 character HLQ, (We suggest it be unique at your site and we suggest you use "PRT" or "SPL").

Step 6.3: Create the SyzSpool VSAM Journal file

- JOURNAL -
If you do not already have a VSAM Journal File created for SyzSpool use the hlq.INSTALL(JOURNAL) job to create one. By way of example, each 18 3390 Cylinders will allow you to manage ~75,000 to 100,000 datasets. We suggest starting with 200 cylinders which should hold more datasets than most sites will ever need.

The name you choose for this VSAM dataset will be used in subsequent steps.

Step 6.4: RACF Authorize the SyzSpool started task

- RACFSTC -

If you do not already have the RACF started task entries use the hlq.INSTALL(RACFSTC) job to create them.

The sample JOB uses SYZSPOOL for the started task name of SyzSpool but you may elect to use any name for your started task.

You must remember to rename the sample startup proc if you elect to use a name other than SYZSPOOL in this step.

Step 6.5: Copy the necessary proclib and parm members.

- Copy Procs and Parms -

Several sample members of the INSTALL library have been provided for you to configure your SyzSpool configuration. You may need to EDIT and COPY these members to the specific libraries mentioned below:

SYZMAIL - copy to your JES proclib concatonation
(DO NOT RENAME THIS MEMBER)
You only need to do this if you elect to use the
ISPF interface to XMITIP to send Email attachments
of the SyzSpool output.

NOTE You *MUST* update the //SYSPROC DD to point to your local XMITIP EXEC library (and the SyzSpool EXEC library if you didn't copy the SyzSpool Rexx Exec called "SYZMAIL" (not this proc, the EXEC) to the XMITIP EXEC dataset (recommended you copy it)

SYZSPOOL - Sample SyzSpool startup procedure -
Copy this member to your JES proclib concatenation
(If you made changes to RACFSTC above, to change
the name of this procedure, you will need to rename
the member in PROCLIB to that name).

Change or remove the //STEPLIB DD.
Change the //SYZPARMS DD to point to the dataset
you will keep your startup parms in.
Change the //JOURNAL DD to point to your VSAM JOURNAL
dataset created in a previous step.

SYZSPL00 - Sample Startup parameters for SyzSpool
Copy this member to your parmlib or another
dataset, be sure to change the SYZSPOOL member above
to use that dataset name on hte //SYZPARMS DD.
Be sure to EDIT this member to include your sites
runtime parameters, see the installation guide for
help in selecting those parm.

SYZSYNC - Sample Periodic Maintenance JOB.
This JOB needs to be EDITed to your site specs.
Change or remove the //STEPLIB DD
Change the //SPOOLCAT DD to point to your User
Catalog created in a previous step for SyzSpool.
Change the //JOURNAL DD to point to your sites'
VSAM Journal file, created previously.
** NOTE ******* (Syzygy suggests that you schedule this JOB to
run daily) **********

ICHNCV00 - Sample RACF DSN conversion Exit.
If you wish to use RACF dataset conversion for
your SyzSpool datasets so that RACF will use your
already existing dataset profiles instead of
creating all new ones for "PRT.xxxx.xxx" datasets
you will need to submit this job. It will change
the internal dataset name from "PRT." to
"Creator Userid." so that your existing dataset
profiles can be used. This module should be
link edited into a system LPA library, and an IPL
with the CLPA option should be scheduled.
Alternatively, you can load this module "on the fly"
but eventually you will need to IPL to make the
change permanent.

Step 6.6: Customize the SyzSpool ISPF interface.

- Customize the ISPF Interface -

There are several small changes that you must perform in order to use the SyzSpool ISPF interface. They are broken down by dataset type. These datasets were loaded by you in step 1 above.

EXEC Library Members -

@SYZSPL4 - Sample SyzSpool Interface startup exec.
This is the Rexx Exec that your standard ISPF option panel uses to start the SyzSpool ISPF Interface.

You must update the LIBDEF statements for the Panel, Skeleton, and Message datasets to point to the ones you created in STEP 6.1 above. Make sure your Users have RACF/ACF2 access to these datasets.

SYZMAIL - No changes necessary. Only needed if using the Email interface to XMITIP.
NOTE We recommend that you copy this member to your XMITIP EXEC library. That way, no special changes will be necessary later to access it when using the interface.

SYZSPL - Only needed if using the WEB interface to SyzSpool.
You will need to edit this member and change the " journal = 'SYZSPOOL.JOURNAL' " to the name you chose in STEP 3 above. Do not make any other changes.

NOTE We recommend that you copy this member to a system EXEC library. That way, no special changes will be necessary later to access it when using the interface.

You will need to know the name of the dataset you place
this member into when you get to step 6.10 below.
The WEB interface must have this dataset name to function.

ISPMLIB (Message) Library Members -

SYZ00 - No changes necessary.

ISPSLIB (Skeleton) Library Members -

SYZMAIL0 - No changes necessary.
SYZMAIL1 - No changes necessary.
note If SyzSpool is NOT in Linklist, then you will need to
uncomment out the //STEPLIB DD in the SYZMAIL1 member
(we recommend that you put SyzSpool executables in your Linklist.)

ISPPLIB (Panel) Library Members -

ISR@PRIM - Sample z/OS 1.9 ISPF primary option with SyzSpool.
SYZISP00 - SyzSpool Product Primary Option Panel
Change the &JRNLDSN = 'SYZSPOOL.JOURNAL' to match your
own VSAM Journal file, created in STEP 3 above.
Change the &HLQ to match your sites selected High Level
Qualifier, created in STEP 6.2 above.
SYZISP01 - No changes necessary.
SYZISP02 - No changes necessary.
SYZISP03 - No changes necessary.
SYZISP04 - No changes necessary.
SYZIS00H - No changes necessary (Help Panel)
SYZIS01H - No changes necessary (Help Panel)
SYZIS02H - No changes necessary (Help Panel)
SYZIS03H - No changes necessary (Help Panel)
SYZIS04H - No changes necessary (Help Panel)
SYZPRIME - Sample Syzygy Primary Option panel with SyzSpool.

Step 6.7: Skip to Step 8 for SMS changes and come back to this step

- SMS class and ACS routine changes -

You should refer to the SyzSpool installation documentation manual (this guide) in STEP 8 for detail directions on updating your SMS parameters for SyzSpool use. You will use the ISPF interface to ISMF to perform these change. If you are familiar with SMS constructs, you will have no problems with the very simple additions.

You will be changing the default allocation ACS routines to keep SyzSpool datasets in a pool that you set aside for them. We suggest that you specify (at a minimum) several management classes for "discard" to discard output you do not wish to keep, and for various retention periods that you wish to use for your output, (SPOOL10, for 10 days, SPOOL30, for 30 days, SPOOL90 for 90 days, SPOOL6M, for 6 months, SPOOL9M for 9 Months, SPOOL365, for 1 year, SPOOL2Y for two years, SPOOL5Y, for 5 years, etc.) as needed to support your requirements. You can add these at any time, but remember that SyzSpool can't use a name that you have not already defined to SMS, if you use one that isn't defined, or misspell it, SyzSpool will default to whatever you created as the global default for SyzSpool datasets (see the manual)

Optional Step 6.8: Optionally install XMIT/IP

- Install XMITIP -

XMITIP LBDSoftware's XMIT/IP product.
SyzSpool can take advantage of this "freeware" product to send the Spooled data as Email attachments.

XMITIP Updates and the optional packages can be found at http://www.lbdsoftware.com

(There are no SyzSpool requirements for any special version of XMITIP, if you already have a version installed, you need up update it)

NOTE- If you decide to use the XMITIP interface, you MUST Copy the hlq.EXEC(SYZMAIL) Rexx exec to the XMITIP EXEC library.
This will provide the SyzSpool interface to XMITIP.

STEP7:

Sample JCL and Possible RACF Changes.

Normally you should add a proc to your system proclib so that you can easily use the facility. We suggest that you create a proc called SYZSPOOL. This is so that you can authorize the SYZSPOOL proc to and allow them to run without any operator intervention.

The sample JCL is as follows:

Sample SYZSPOOL JCL

```
//SYZSPOOL  PROC M=00
//*
//*       SYZYGY SPOOL OFFLOAD PROGRAM
//*
//SYZSPOOL   EXEC PGM=SYZSPOOL,TIME=1440
//SYSPRINT    DD   SYSOUT=*
//SYZPARMS  DD DISP=SHR,DSN=SYS1.COMMANDS(SYZSPL&M)
```

*Note. The SYS1.COMMANDS dataset is a PDS that is allocated as FB-Lrecl(80) Blksize(23440) and will be used to contain the run-time parameters for SyzSpool.

Required RACF changes (that may be necessary for some sites):

Depending on your sites configuration, you may or may not have to perform RACF changes to create these procedures. If so, then the following will be necessary:

```
ADDUSER SYZSPOOL DFLTGRP(STCGROUP) NOPASSWORD +
```

NOOIDCARD

CONNECT SYZSPOOL GROUP(STCGROUP) AUTH(USE)

CONNECT SYZSPOOL GROUP(SYS1) AUTH(USE)

RDEFINE STARTED SYZSPOOL.* STDATA(USER(SYZSPOOL) +
PRIVLEDGED(YES) TRUSTED(YES) GROUP(STCGROUP))

SETROPTS RACLIST(STARTED) REFRESH

Now, lets look at the user's side of things. We want to make it so that the users can access their own JOBs by default, if there is a requirement that they be able to access other people's output, then you may need to make other changes to RACF to support it.

First define the group PRT (assuming you selected PRT as your HLQ for the output.

AG (PRT)

Second, keep everyone from getting there by default.

PE 'PRT.*.' UACC(NONE) RALTER GLOBAL DATASET**

Now you have a decision to make:

1) You can make a global access entry which will allow read access to the spool output ONLY if the user is the one that created the output. This is normally a secure way to handle things with a minimum of work on your part since it requires only 1 RACF command. The drawback is that if you have users that need access to output that was not actually submitted by them, (i.e. they are part of some group that can all see each other's output), then this method won't work for you. To implement this method, you simple enter the following command from an authorized RACF

administrator ID. It makes a GLOBAL ACCESS TABLE entry that simply allows the user to access the output IF they are the one that submitted it.

RALTER GLOBAL DATASET
ADDMEM('PRT.*.&RACUID.'/READ)**

2) You can use the RACF dataset naming conversion table (a sample is supplied as member ICHNCONV of the install library), which will translate the spool output dataset requests to a format the matches your existing RACF dataset rules. ACF/2 also has this same capability, but a sample is not provided, you can get the sample directly from Computer Associates. The conversion table provides conversion ONLY for those datasets that natch the HLQ that is coded. The sample assumes a HLQ of "PRT", but you can alter the sample if you are using some other HLQ (like "SPL"). The overhead of the conversion table is not even measurable (we have tried), and works as follows:

If the incoming DSN is in the format of:

PRT.jobname.creatorID.Ddate.jobnumber.TtimeX

The table will convert the DSN (internally for RACF purposes ONLY) to:

creatorID.PRT.jobname.Ddate.jobnumber.TtimeX

Cool, isn't it? This will allow your existing RACF dataset profiles and user/group rules to be used instead of writing new ones.

Sample Code:

```
  Column
1 10          20
  ICHCONV     DEFINE,NAME=SYZSPOOL
  ICHCONV     SELECT,COND=(QCT,EQ,6,AND)          * 6 part DSN
  ICHCONV     SELECT,COND=((GQ,1),EQ,'PRT',AND)  * HLQ=PRT
  ICHCONV     ACTION,SET=((UQ,0),(GQ,3))          * HLQ now=Creator
  ICHCONV     ACTION,SET=((UQ,3),' '))            * remove 3rd Qual
  ICHCONV     ACTION,SET=(QUAL,(GQ,3))       * RACF qual=Creator
```

```
ICHCONV     END,NEXT='SUCCESS'          * done
ICHCONV     FINAL                       * Exit
```

The code above is assembled and linked into a user (or system) LPA library, and can be loaded dynamically or at the next IPL. This exit has been extensively tested and affects only the way RACF views the datasets, they are not altered on DASD nor are they affected in any physical way. This allows the dataset to be managed by DF/SMS easily and allows RACF management to be handled in a much more streamlined manner.

3) Lastly, you could create a whole series of dataset rules beginning with "PRT" to manage the RACF access to the spool data. This is a lot of work and isn't really recommended.

Note: Syzygy is planning to add support for use of the JESSPOOL resource checking for output access. That will allow use of the existing SDSF output rules for access to the spool data. While this is a good plan, it's only workable if you have rules set up for SDSF in the first place.

STEP8:

Required SMS changes (that may be necessary for some sites):

Depending on your sites configuration, you may or may not have to perform SMS changes to allow SyzSpool to function correctly. If so, then the following may be necessary:

ISMF changes to STORCLASS:

Crease a filtlist in your STORCLAS ACS routine similar to the following:

```
/* Identify the SyzSpool task name (4 possibilities in the next line)*/
FILTLIST SPOOL_OFF
INCLUDE('SPOOLOFF','SPLOFF','SYZSPOOL','SYZSPL')

/* Identify the names of the SyzSpool output datasets */
/* SyzSpool uses a 6 part name
HLQ.JOBNAME.CREATOR.Date.JobNum.TimeX */
/* SPL.** covers all data sets starting with SPL. */
/* PRT.** covers all data sets starting with PRT. */
/* otherwise you have to include the 3 possible formats of the output datasets */
/*   1 for Jobs, 1 for STC's and 1 for TSU */

FILTLIST SPOOL_DATA_SET      INCLUDE(SPL.**,
                                     *.*.*.D*.J*.T*,
                                     *.*.*.D*.S*.T*,
                                     *.*.*.D*.T*.T*,
                                     PRT.**)

/* Assume the following are valid Storage Classes */
FILTLIST VALID_STORAGE_CLASS
INCLUDE('BASE','CRITICAL','FAST',
                                     'FASTREAD','SPOOL',
                                     'FASTWRIT','GSPACE','MEDIUM',
                                     'NONVIO','STANDARD','DBCRIT')
```

You can then code the following in your STORCLAS when statements, the follwing two when statements will first allow SyzSpool to use any Storage class it wants (as long as it's valid), otherwise the second WHEN statement will be used which forces a STORCLAS of SPOOL (which you will need to make sure you have configured):

```
WHEN (&DSN = &SPOOL_DATA_SET &&          /* If SysSpool Dataset  */
    &STORCLAS = &VALID_STORAGE_CLASS)  /* and SyzSpool wants to use  */
 DO                                     /* another VALID storclas   */
  SET &STORCLAS = &STORCLAS             /* allow it        */
  EXIT
 END
WHEN (&DSN = &SPOOL_DATA_SET)          /* Else If SyzSpool Dataset  */
 DO                                     /* Force   */
  SET &STORCLAS = 'SPOOL'               /* STORCLAS of SPOOL */
  EXIT
 END
```

Now you can create the Storage Class entry by using the following steps. These steps assume you are calling your entry SPOOL, but you could use any name, just be sure it matches the previous steps:

```
 Panel  Utilities  Help
                    STORAGE CLASS APPLICATION SELECTION          EMPTY LIST
Command ===>

To perform Storage Class Operations, Specify:
  CDS Name  . . . . . . . 'SYS1.SCDS'
                          (1 to 44 character data set name or 'Active' )
  Storage Class Name  . . SPOOL___  (For Storage Class List, fully or
                                    partially specified or * for all)
Select one of the following options  :
  3  1. List          - Generate a list of Storage Classes
     2. Display       - Display a Storage Class
     3. Define        - Define a Storage Class
     4. Alter         - Alter a Storage Class
     5. Cache Display - Display Storage Classes/Cache Sets
If List Option is chosen,
   Enter "/" to select option    _  Respecify View Criteria
                                 _  Respecify Sort Criteria

If Cache Display is Chosen, Specify Cache Structure Name . . ________________

Use ENTER to Perform Selection;
Use HELP Command for Help; Use END Command to Exit.
```

```
 Panel  Utilities  Scroll  Help
                          STORAGE CLASS DEFINE            Page 1 of 2
Command ===>

SCDS Name . . . . . : SYS1.SCDS
Storage Class Name  : SPOOL
To DEFINE Storage Class, Specify:
  Description ==> SyzSpool Storage Class
              ==> ____________________________________________________
  Performance Objectives
    Direct Millisecond Response . . . . ___        (1 to 999 or blank)
    Direct Bias . . . . . . . . . . . . _          (R, W or blank)
    Sequential Millisecond Response . . ___        (1 to 999 or blank)
    Sequential Bias . . . . . . . . . . _          (R, W or blank)
    Initial Access Response Seconds . . ____       (0 to 9999 or blank)
    Sustained Data Rate (MB/sec)  . . . ___        (0 to 999 or blank)
  Availability . . . . . . . . . . . . S           (C, P ,S or N)
  Accessibility  . . . . . . . . . . . S           (C, P ,S or N)
    Backup  . . . . . . . . . . . . . . _          (Y, N or Blank)
    Versioning  . . . . . . . . . . . . _          (Y, N or Blank)

Use ENTER to Perform Verification; Use DOWN Command to View next Page;
Use HELP Command for Help; Use END Command to Save and Exit; CANCEL to Exit.
```


Panel Utilities Scroll Help
STORAGE CLASS DEFINE Page 2 of 2
Command ===>
SCDS Name . . . . . : SYS1.SCDS
Storage Class Name : SPOOL
To DEFINE Storage Class, Specify:
Guaranteed Space . . . . . N (Y or N)
Guaranteed Synchronous Write . . . N (Y or N)
Multi-Tiered SG . . . . . _ (Y, N, or blank)
Parallel Access Volume Capability N (R, P, S, or N)
CF Cache Set Name . . . . . (up to 8 chars or blank)
CF Direct Weight . . . . . __ (1 to 11 or blank)
CF Sequential Weight . . . . . __ (1 to 11 or blank)
Use ENTER to Perform Verification; Use UP Command to View previous Page;
Use HELP Command for Help; Use END Command to Save and Exit; CANCEL to Exit.

ISMF changes to MGMTCLASS:

First we need to make sure that the FILTLIST in your MGMTCLAS ACS routine matches the one you created in your STORCLAS ACS routine, so it should be an exact copy of the one your created in the previous step:

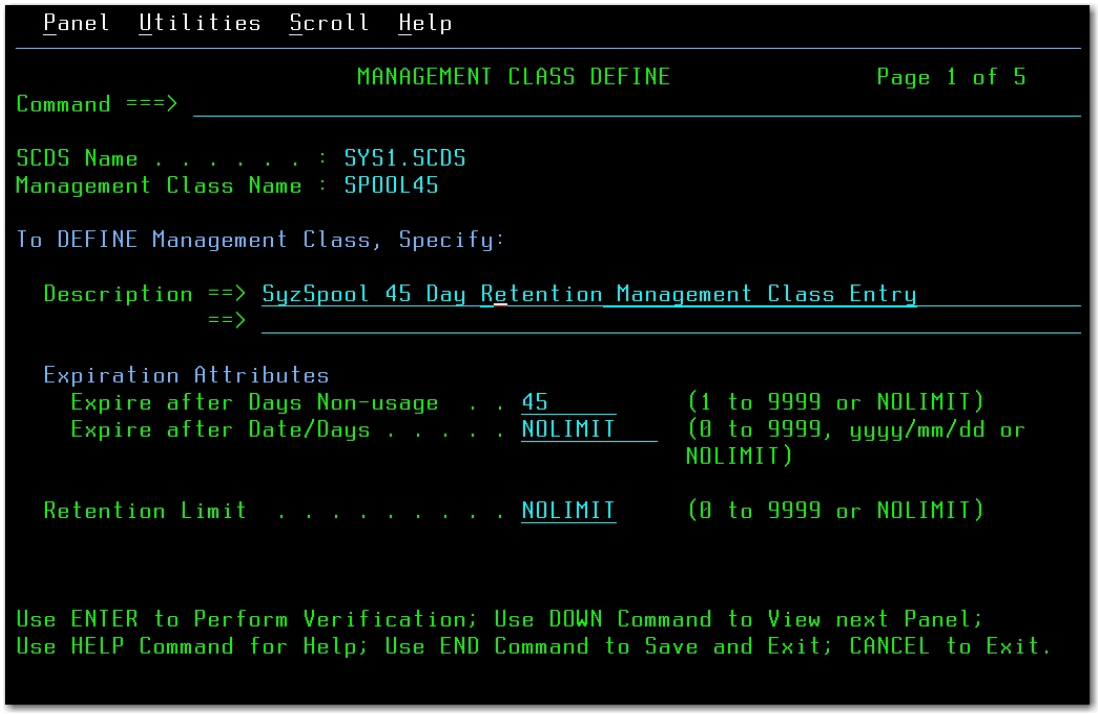
```
/* Identify the names of the SyzSpool output datasets */
/* SyzSpool uses a 6 part name HLQ,JOBNAME.Date.JobNum.Time.X */
/* SPL.** covers all data sets starting with SPL. */
/* PRT.** covers all data sets starting with PRT. */
/* otherwise you have to include the 3 possible formats of the output datasets */
/*   1 for Jobs, 1 for STC's and 1 for TSU */

FILTLIST SPOOL_DATA_SET      INCLUDE(SPL.**,
                                     *.*.D*.J*.T*,
                                     *.*.D*.S*.T*,
                                     *.*.D*.T*.T*,
                                     PRT.**)
```

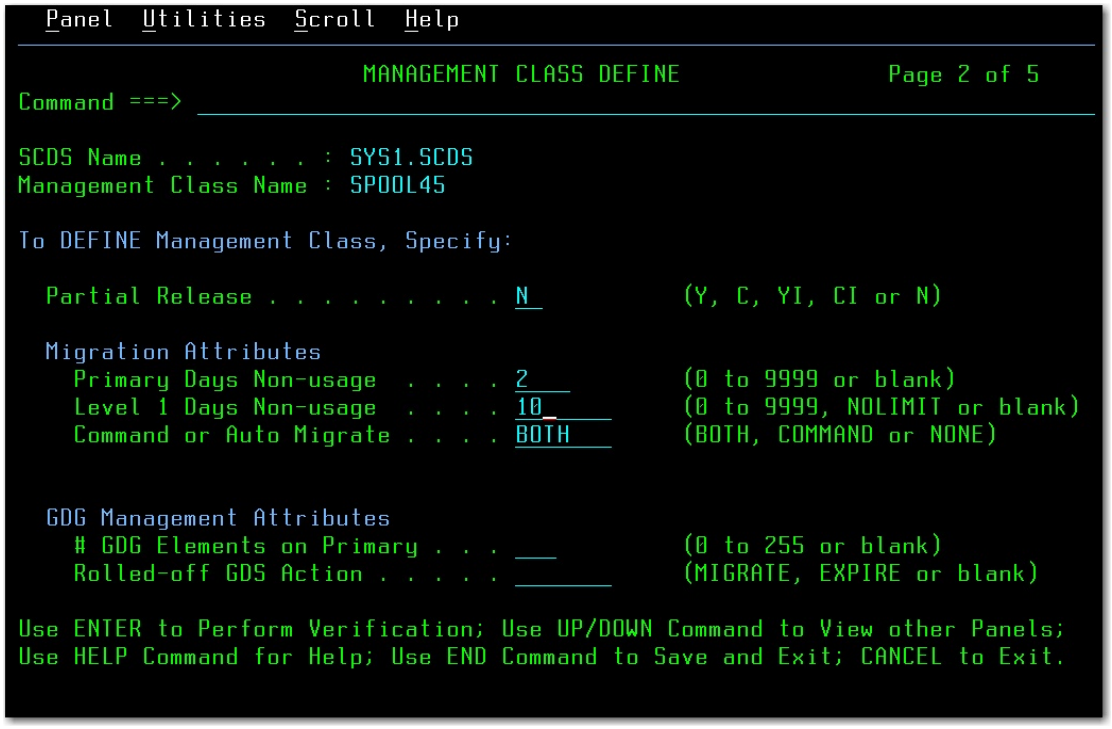
Then we will want to identify all of the possible Management Class entries that SyzSpool might be allowed to use. If you always will use just a single management class because you want all of your spool output to have the same expiration, backup and migrate characteristics, then you won't need this entry. We recommend that you have several possible Management class entries for SysSpool to use. You probably don't want or need to keep system tasks as long as the user output, so having multiple choices makes a lot of sense (at least it does to us).

The following entries are similar except that the EXPIRE after Days last used is different for each entry, we have the standard one (SPOOL) which is 18 months, then we have other entries of varying dates between 10 and 365, you can use as many or as few as you feel you might need:

```
FILTLIST VALID_SPL_CLASS
INCLUDE('SPOOL','SPOOL10','SPOOL30',
                     'SPOOL60','SPOOL90','SPOOL120',
                     'SPOOL365')
```

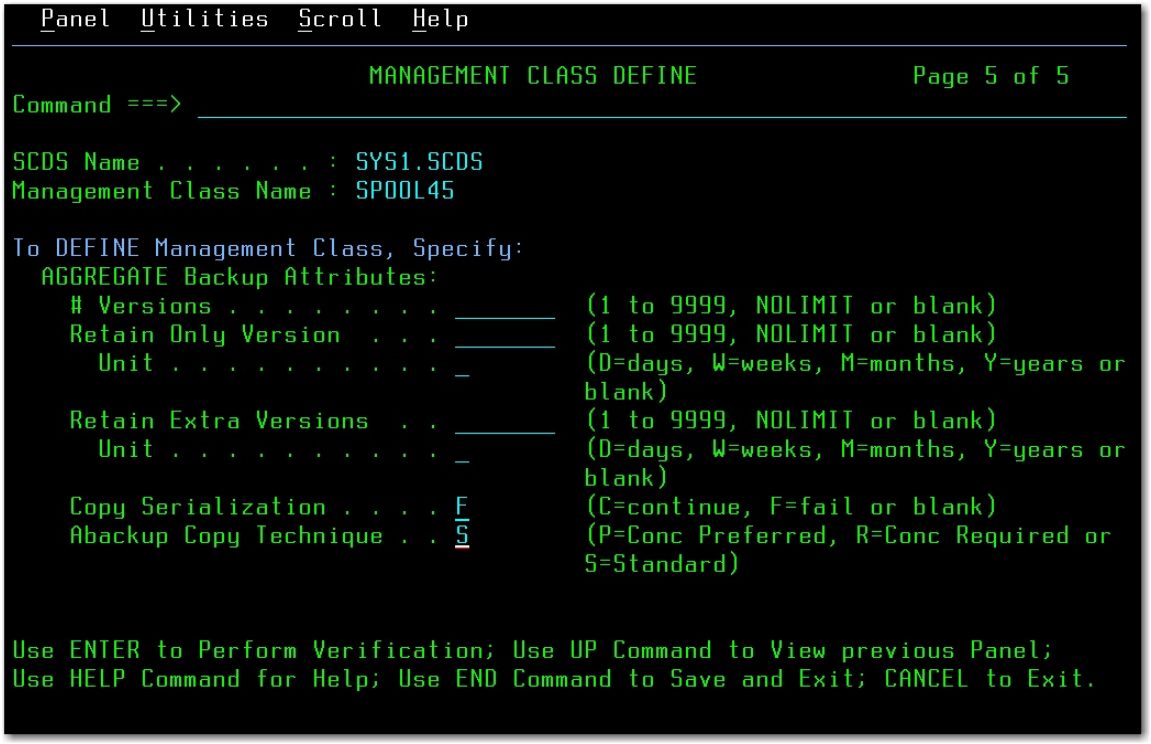
Example of the creation of the MGMTCLAS entry:





```
 Panel  Utilities  Scroll  Help
------------------------------------------------------------------------------
                        MANAGEMENT CLASS DEFINE            Page 3 of 5
Command ===>
------------------------------------------------------------------------------

SCDS Name . . . . . : SYS1.SCDS
Management Class Name : SPOOL45

To DEFINE Management Class, Specify:
  Backup Attributes
    Backup Frequency  . . . . . 1___      (0 to 9999 or blank)
    Number of Backup Vers . . . . . 1__   (1 to 100 or blank)
      (Data Set Exists)
    Number of Backup Vers . . . . . 1__   (0 to 100 or blank)
      (Data Set Deleted)
    Retain days only Backup Ver . . . 60____  (1 to 9999, NOLIMIT or blank)
      (Data Set Deleted)
    Retain days extra Backup Vers . . 30____  (1 to 9999, NOLIMIT or blank)
    Admin or User command Backup  . . BOTH    (BOTH, ADMIN or NONE)
    Auto Backup . . . . . Y       (Y or N)
    Backup Copy Technique . . . . . S       (P=Conc Preferred, R=Conc
                                            Required or S=Standard)
Use ENTER to Perform Verification; Use UP/DOWN Command to View other Panels;
Use HELP Command for Help; Use END Command to Save and Exit; Cancel to Exit.
```

```
 Panel  Utilities  Scroll  Help
------------------------------------------------------------------------------
                        MANAGEMENT CLASS DEFINE            Page 4 of 5
Command ===>
------------------------------------------------------------------------------

SCDS Name . . . . . : SYS1.SCDS
Management Class Name : SPOOL45

To DEFINE Management Class, Specify:
  Object Class Transition Criteria
    Time Since Creation Years  . . ____   (0 to 9999 or blank)
                        Months . . ____   (0 to 9999 or blank)
                        Days . . . ____   (0 to 9999 or blank)
    Time Since Last Use Years  . . ____   (0 to 9999 or blank)
                        Months . . ____   (0 to 9999 or blank)
                        Days . . . ____   (0 to 9999 or blank)
    Periodic
      Monthly   On Day . . . _____  (1 to 31, FIRST, LAST or blank)
      Quarterly On Day . . . _____  (1 to 92, FIRST, LAST or blank)
                In Month . . _      (1 to 3 or blank)
      Yearly    On Day . . . _____  (1 to 366, FIRST, LAST or blank)
                In Month . . __     (1 to 12 or blank)
Use ENTER to Perform Verification; Use UP/DOWN Command to View Other Panels;
Use HELP Command for Help; Use END Command to Save and Exit; CANCEL to Exit.
```


Panel Utilities Scroll Help
MANAGEMENT CLASS DEFINE Page 5 of 5
Command ===>
SCDS Name . . . . . : SYS1.SCDS
Management Class Name : SPOOL45
To DEFINE Management Class, Specify:
AGGREGATE Backup Attributes:
Versions . . . . . (1 to 9999, NOLIMIT or blank)
Retain Only Version . . . (1 to 9999, NOLIMIT or blank)
Unit . . . . . (D=days, W=weeks, M=months, Y=years or blank)
Retain Extra Versions . . (1 to 9999, NOLIMIT or blank)
Unit . . . . . (D=days, W=weeks, M=months, Y=years or blank)
Copy Serialization . . . . F (C=continue, F=fail or blank)
Abackup Copy Technique . . S (P=Conc Preferred, R=Conc Required or S=Standard)
Use ENTER to Perform Verification; Use UP Command to View previous Panel;
Use HELP Command for Help; Use END Command to Save and Exit; CANCEL to Exit.

ISPF changes necessary to use the ISPF Interface:

1) Make the SyzSpool ISPF interface datasets available to the users.

Several datasets are shipped with SyzSpool which need to be made available to the users in order to use the ISPF interface to the product. All of the datasets and their contents have been outlined in appendix "A". The datasets contain the SyzSpool related ISPF panels, Skeletons, REXX Execs, Messages, and (if you desire to use the EMAIL interface), there is a task procedure which needs to be made available for use. You may take one of three methods to make this happen:

A) Use the supplied SYZSPOOL REXX exec to dynamically acquire the libraries only when the user requests them. This is by far the most preferred of the implementation methods and our questionnaires show that more than 95% of the clients implement via this method.

B) Include the datasets in your "standard" ISPF concatenation within the users logon procedures. i.e. ISPPLIB, ISPMLIB, ISPSLIB, ISPEXEC

C) Copy the members to installation specific datasets that are already in the user's logon procedure concatenation. While you can even copy them to the base IBM supplied libraries, it is not recommended that you do that because it makes things difficult to update later on, and basically it's just an all around bad idea to play with the libraries that IBM ships.

**Note: You should be sure that the dataset naming convention you use for these datasets is such that the users may have "read" authority to these datasets. Otherwise RACF or ACF2 errors will result and the users will not be able to use the interface correctly.

2) Make installation specific updates to the members

There are several members that need to be updated to contain information to conform to your site's specific information. The changes are very simple to make, but it's a fairly safe bet that failure to make the changes will result in unpredictable results. While it's possible that you may decide to use the shipped

naming conventions that we use her at the development site, it's more than likely that you will have changed them to have dataset names that are more in line with your own site's standards. (You **do** have standards don't you?)

A) ISPMLIB (ISPF Message Library) dataset -
No Changes Required

B) PROCLIB dataset -
You will need to copy the SyzMail member to your installation's PROC00 concatenation, see the member for detail changes, but the only absolutely necessary change is that you identify the correct dataset names of the XMITIP product's REXX exec library.

You will need to check the dataset name specified in the SYZSPOOL proclib member to see that the //JOURNAL DD points to your installation defined VSAM Journal dataset. It's the same one you must supply to the SYZSPL00 (panel library member), and @SYZSPL (sysproc or sysexec library member).

C) ISPSLIB (ISPF Skeleton library) dataset -
No Changes Required

D) ISPPLIB (ISPF Panel library) dataset -
You will need to check the dataset name specified in the SYZSPL00 member to make the VSAM JOURNAL dataset point to the one you allocated. It's the same one you must supply to the @SYZSPL (sysproc or sysexec library member), and SYZSPOOL (PROClib member)..

You will need to add support to your user's primary option panels (IBM supplies it as ISR@PRIM). Two samples are provided SYZPRIM and ISR@PRIM (which is the IBM default with the SyzSpool product support added. The sample is from z/OS V1.9 and you should take care that it matches your supplied member before you replace the IBM supplied one.

E) SYSPROC or SYSEXEC dataset -
You will need to check the dataset name used in the @SYZSPL member of the supplied CLIST library. This dataset should contain the name of

your SyzSpool JOURNAL dataset. It's the same one you must supply to the SYZSPL00 (panel library member), and SYZSPOOL (PROClib member).

You will need to add the @SYZSPL REXX exec to the SYSPROC or SYSEXEC concatenation of your user's logon procedure. This REXX exec uses dynamic allocation to add the SyzSpool required datasets. You will need to update the LIBDEFs within this member to your installation SyzSPool ISPF datasets. If you have copied the SyzSpool Panels, Messages, Skeletons, and Rexx Execs libraries that already exist in your user's logon procedures, then you can instead use the supplied @SYZSPLN member which does not dynamically allocate the SyzSpool datasets.

Datasets which should/Must be allocated for SyzSpool.

A VSAM catalog

For use by SyzSpool to keep the offloaded output dataset names in.

This can either be a new catalog or an existing catalog. JOBs are provided to create the catalog and to create the necessary Alias entry that points tot hat catalog. If you decide to use an existing catalog in place of the new one, you will still need to define the ALIAS for SyzSpool's use.

The Install dataset

This dataset will be created from the installation file transfer dataset process. It will by default be called &HLQ.SYZSPOOL.VxRxMx.INSTALL, but you can rename it to suit your site requirements.

Install Dataset contents:

$CATALOG	JOB to create a new catalog to hold the offloaded dataset entries
$JOURNAL	JOB to create the SyzSpool VSAM JOURNAL dataset Step added to copy the old dataset to the new one if upgrading from version 4.4 to higher release (4.5 and up).
$SYNC	JOB to synchronize the VSAM JOURNAL and the system catalog (This JOB should be run on a daily or semi-daily basis)

The PROCLIB dataset

This dataset will contain the sample PROCLIB members which should be copied to your system PROCLIB concatenation.

The ISPF Interface datasets

These datasets will be created from the installation file transfer dataset process.

There will be several datasets with the format of
&HLQ.SYZSPOOL.VxRxMx.**

ISPPLIB	-	Panel Library
ISPMLIB	-	Message Library
ISPSLIB	-	Skeleton Library
CLIST	-	SYSPROC or SYSEXEC Library (either is fine)

VSAM Journal File

This dataset is created by the $JOURNAL member of the INSTALL library and is used by SyzSpool to keep track of all datasets that have been offloaded. It is kept in sync with the sites catalog records via a special program called SyzSync. SyzSync normally should be run daily so that datasets that have been deleted by the user or via normal system dataset expiration can be removed from the SyzSpool JOURNAL dataset. Otherwise, the JOURNAL entries would never be removed. This is very similar to other programs such as HSM which must keep the catalog entries and the JOURNAL entries in sync. The SyzSync program is very fast, and normally will process over 100,000 datasets per minute (wall clock) and uses very little CPU time. The size of the JOURNAL file is up to the site to decide. The JOURNAL records are 255 bytes long and there are typically (in version 3 and higher of SyzSpool) 1 record for each offloaded dataset. A 250 Cylinder VSAM JOURNAL will hold roughly 1 million entries. Depending on the number of offloaded jobs that you plan to keep around, you will need to size your JOURNAL dataset accordingly. Use of the JOURNAL dataset is not mandatory, but if you decide not to use it, you will not be able to use the SyzSpool ISPF interface.

Support tasks which should/Must be scheduled for SyzSpool.

1) SYZSYNC

This job is required to keep the SyzSpool output datasets, the VSAM Journal and the catalog entries in sync. There will be a lot of activity related tot he SyzSpool spool output datasets. The normal management process will move, archive and delete them, and a periodic process is necessary to keep things in sync. This task will read the catalog, the VSAM journal and compare the datasets to see where things are and make any necessary changes to keep things synchronized.

This task is VERY low impact to system resources. Total wall clock time to manage 512,000+ datasets is under 45 seconds on our mainframe system.

This task "ideally" should be scheduled to run daily at some O-DARK-THIRTY time, and running it as a started task is preferred, but not absolutely necessary. A sample started task is supplied in the installation dataset with the name of SYZSYNC.

2) SYZREORG

This job is not normally required, but is provided "just in case" it ever becomes necessary to re-org the VSAM journal file.

Some sites have found that the journal can become fragmented over a long period of time, but the normal access/update pattern of SyzSpool operation is such that reorganization may never be required. A sample job is supplied in the installation dataset with the name of SYZREORG.

SyzSpool WEB Interface Installation

If you do not already have the IBM z/OS HTTP Server running at your site, you will need to configure it in order to utilize the WEB interface. Normally the HTTP server is installed as part of the base z/OS installation, but there are some configuration steps that are necessary in order to allow SyzSpool to use this facility. By default, the IBM z/OS HTTP Server is started as either HTTPD1 or WEBSERV. You should find the startup JCL in your system proclib, or, if it is already running, you can use SDSF or some similar product to find where the configuration files and various directories that the HTTP Server uses are located.

A typical HTTP Server startup proc looks like:

```
//HTTPD1 PROC  P1='-B',
// P2='-r /web/httpd1/httpd.conf',
// P3='ENVAR("_CEE_ENVFILE=/web/httpd1/httpd.envvars")/ -vv'
//* P3='STAC(200K),STOR(,,,8K),LIBS(1K,1K),BE(400K,50K,KEEP)/ -vv'
//WEBSRV1  EXEC PGM=IMWHTTPD,REGION=0K,TIME=NOLIMIT,
//   PARM=('&P3 &P2 &P1')
//SYSIN    DD DUMMY
//OUTDSC   OUTPUT DEST=HOLD
//SYSPRINT DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//SYSERR   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//STDOUT   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//STDERR   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//SYSOUT   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//CEEDUMP  DD SYSOUT=*,OUTPUT=(*.OUTDSC)
```

The important line is highlighted above. This is the location of the configuration file for the HTTP Server.

Within that configuration file (which you can browse and edit) are a series of "directives" which are really nothing more than configuration parms for the HTTP Server. We will be making some small changes, but before we do that, we need to look into the file to find out where the HTTP Server keeps some of the things that we are concerned with. Most important of these is the "InstallPath" directive and it looks like this

(remember that the HTTP Server treats lines that start with a pound sign (#) as a comment):

```
#       InstallPath directive:
#
#       Set this to point to the server install path
#
#       Default:  /usr/lpp/internet
#       Syntax:   InstallPath    <path>

InstallPath     /usr/lpp/internet
```

This tells us that the initial place where the HTTP server keeps it's files for use when it runs (Web pages, Logs, Icons, binaries, etc.) is located. In our case it's /usr/lpp/internet.

But that's not all, we need to know where the "Home" directory is located. We know that it's somewhere within the above InstallPath, but we have to look at another directive entry (usually located right after “InstallPath" called "ServerRoot" to tell us more:

```
#       ServerRoot directive:
#
#       Default:  server_root
#       Syntax:   ServerRoot    <path>

ServerRoot      server_root
```

Now we know that all of the locations that we are interested in will be located by placing these two directives together, as follows:

/usr/lpp/internet/server_root

Remember that USS is **VERY** particular about capitalization, so that "a" does not equal "A".

For our example, the SyzSpool files will be located in

directories that we will create in sub-directories of /usr/lpp/internet/server_root called:

/usr/lpp/internet/server_root/syzspl

and

/usr/lpp/internet/server_root/syzspl-bin

Directions for what and how to do this are provided later.

- Copy the WEBPAX file from the installation PDS to a HFS or ZFS dataset on your system. We suggest you copy it to the /tmp/ directory. An easy way to accomplish this is by using the OCOPY utility under TSO or BATCH, or you can use the ISPF/PDF USS shell.

A batch JOB has been supplied for you in the INSTALL data set called OCOPY which will allow you to copy the WEBPAX dataset to a /tmp directory on your USS system. Be sure to make the necessary changes to this member before use. It is set to allocate the WEBPAX data to a file called sysspl45.pax at the directory:

/ADCD/tmp

Your system probably does not have /ADCD before the /tmp, but may have some other main directory like /Z110, /SYSTEM, etc.

Alternatively, under the ISPF/PDF USS shell, you can type /tmp/syzspool.pax on the first line, this will bring up the file creation dialog, select option 2 on the left side (for FILE) and option 3 on the right side (copy from MVS dataset). Then you will be prompted for the name of this dataset and you type it as:

"syzsplv4.WEBPAX" making your local changes to the DSN.

This will create the PAX file (SYZSPOOL.PAX) which you can then "un-pax" via the OMVS interface (or batch). If using OMVS, you would go to the /tmp/ directory and type:

pax -rvf syzspool.pax . (the period belongs here after the space).

Then you can copy the files to the directories they belong in. (of course you should create those directories first as well which is covered in the next step).

- Create the following directories, and give them the permissions as follows:

...../server_root/syzspl (permissions 755)
...../server_root/syzspl-bin (permissions 755)

The above directories on a vanilla system would be at:
/usr/lpp/internet/server_root/syzspl
and
/usr/lpp/internet/server_roor/syzspl-bin

- Copy the 4 files that were "un-paxed" to the directories as follows:

syzspl-html.html and index.html go to ...server_root/syzspl/

*note: it may be helpful instead of copying the index.html symbolic link file above to instead not copy it, but use the following command under the OMVS shell to create the symbolic link, otherwise you will end up with a file called index.html instead of a symbolic link, and any changes you make to syzspl-html.html will also need to be made to the index.html file.

To do this, you should be in the following directory:
/usr/lpp/internet/server_root/syzspl/
Use the following command:
ln -s syzspl-html.html index.html

syzspl2.rexx goes to ...server_root/syzspl-bin/
syzygy.gif goes to .../server_root/icons/

- EDIT the /server_root/syzspl-bin/syzspl2.rexx member and change the

"ADDRESS TSO "EX '**YOUR.REXX.LIBRARY**(SYZSPL) ...

to replace the "**YOUR.REXX.LIBRARY**" with the clist or Rexx exec library that you copied the SYZSPL REXX EXEC to in the earlier “allocate VSAM Journal file” step.

- EDIT the HTTP server startup configuration file.

The startup file cn be found by looking at your HTTP server (usually called HTTPD1 or WEBSERV) on your running system and you should see the following line:

P2='-r /web/httpd1/httpd.conf', or something very similar.

This tells you that the startup configuration is located at /web/httpd1/httpd.conf . You will need to edit that file and make the following changes:

In the protection section, (**you can use the find command for the word "protection" starting in column 1, and you will find something very similar to the following:

```
....  Data from existing httpd.conf file......
Protection IMW_Admin {
        ServerId            IMWEBSRV_Administration
        AuthType            Basic
        PasswdFile          %%SAF%%
        Mask                WEBADM,webadm
}

..... End of data from existing httpd.conf file......
```

you need to add the following lines (you can add them immediately preceding the “Protection IMW_Admin{“ line:

```
# This is a comment line -copy until next comment

Protection SyzSpling {
        ServerId            Use_Mainframe_ID
        AuthType            Basic
        PasswdFile          %%SAF%%
        UserID              %%CLIENT%%
        Mask                All
}
```

Protect /syzspl/* SyzSpling
Protect /syzspl-bin/* SyzSpling

Exec /syzspl-bin/* /usr/lpp/internet/server_root/syzspl-bin/*
Pass /syzspl/* /usr/lpp/internet/server_root/syzspl/*

This is a comment line -stop copying when you reach here.

Next you will need to find the text “7.2 SERVICE”. A few lines down from that section heading, you will see three lines which may or may not be commented out currently:

```
#       Service /MVSDS* .....
#       Service /MYDATA* .....
#       Service /SALES* .....
```

Before (or after) those three lines, add the following line, starting in column 1.

Service /SYZLST* /usr/lpp/internet/bin/mvsds.so:mvsdsGet*

Next you will need to fine the following text:
“REXX mapping rules”
You should see the following displayed:

```
# ============================================================
#       REXX mapping rules
# ============================================================
# Pass        /REXX/*             /usr/lpp/internet/server_root/rexx/*
```

Remove the “#” (this uncomments the line) that starts with #PASS ....
So that it now reads:

Pass /REXX/* /usr/lpp/internet/server_root/rexx/*

Now you will need to restart the HTTP Server, you can do this by typing the following on the MVS Console:
(change HTTPD1 to you r web server name)

F HTTPD1,APPL=-restart **(Assuming your server is called HTTPD1)**

- You should now be able to access the SyzSpool Web interface from any browser with access to your http server by typing in the URL of your web server and the SyzSpool application name, i.e.:
http://www.thissite.com/syzspl/

*** Some sites running FDR/ABR cannot restore ML/1 datasets without recalling them from tape. If your datasets are on “REAL” tape, then you probably might not want the users to have hte ability recall them from the web server, (but you can if you understand the delays that can exist for them). If you do not wish to allow the possibility of restoring from ML/1, then contact Syzygy to get the directions for disabling that capability (ML/2 restore is already disabled by default). If your tape datasets are on virtual tape, or you wish to allow real tape restore then you can add the library that contains FDRECALL to the RACF PROGRAM controlled environment with the following RACF commands (assuming your FDR library is “SYS1.FDR.LOADLIB”:

RALTER PROGRAM * ADDMEM('SYS1.FDR.LOADLIB'//NOPADCHK)

SETROPTS WHEN(PROGRAM)REFRESH

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Log Format:

Types of Logs:

SyzSpool maintains multiple LOG files during execution, one of these is called the execution log, which maintains a run-time log of the activities that SyzSpool is performing as they are accomplished and is taken to either the JES2 spool or can be taken to a sequential dataset. Another type of LOG file is the JOURNAL, which logs detail information about the JOB and Sysout datasets of the jobs in a more detail mode, each job will result in at least one Execution log entry and at least one JOURNAL file entry which is covered later in this document.

Execution LOG format:

Location	Description	Length	
0-20	**Current Date/time**	**20**	**(YYYY/MM/DD HH:MM:SS)**
21	**Blank**	**1**	
22-27	**Command**	**7**	**(Extract, Failure, etc)**
28	**Blank**	**1**	
29-37	**JOBNAME**	**8**	
38	**Blank**	**1**	
39-46	**JOBID**	**8**	
47	**Blank**	**1**	
48-55	**Records**	**8**	**(lines, pages or Records(JES3 only))**
56	**Blank**	**1**	
57-61	**MAXCC**	**5**	**(Max Retcode, System abend code, user abend)**
62	**Blank**	**1**	
63-70	**# Sysouts**	**8**	**Total in this output dataset (normally the whole job)**
71	**Blank**		
74-117	**Dataset name**	**44**	
118-end	**Various**	**Error codes, etc.**	

Control Commands:

Almost all parameters can be reset to being "ignored" as a selection criteria by specifying the Parameter value as a null. PARM=,

At any time the running execution parameters can be altered via simple operator modify commands, i.e.:

F SYZSPOOL,LL=,LX=5000000,CLASS=,AGE=3D

The above will change the "current" operation parameters for SyzSpool to be:

Lower line limit = 0
Upper line limit to 5,000,000
Classes = all classes
AGE of output = 3 Days (72 hours)

The SyzSpool task can be stopped at any time via a operator modify command or stop command, i.e.:

P SYZSPOOL

or

F SYZSPOOL,STOP

Control Command:

*** (Comment)**

The * control command is used to allow comments to be entered in the parameter list. These lines are not executed in any way. There is no limit to the number of comments in the script, and there is no limit to the contents of the comment.

Parameters:
NONE

Example:

```
.....
* This is an example of a comment
******** As long as we begin the comment with an asterisk in column 1 we
******          are okay
**************************************************
*     Comment                                    *
**************************************************
.....
```

Control Command:

AGE of output: A | AGE =

xxx H | Hours | D |Days

Description:

Provide the installation defined one to three digit age of the output before it is eligable to be processed by SyzSpool. The AGE can be specfified in Hours (H) or Days (D). The JES output is constantly aging, and SyzSpool will receive the output when it reaches the specified AGE automagically (actually is a function of SAPI processing, but it seems like magic).

Parameters:

xxx H or D

Up to a 3 number entry to designate the AGE in Hours or Days the the JES output on the Spool must reach before it is eligable to be off-loaded by SyzSpool. Hours is the default if both H and D are left unspecified.

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. AGE=,

The default is '0', which means that as soon as a JOB, TSU or STC ends, it's output is eligible for processing.

Example:

.....
*** All datasets should start with PRT**
HLQ=PRT,AGE=3D,HELD=NO
.....

Control Command:

Class of output : C| CL| CLASS =

Up to 36 classes (A-Z, 0-9)

Description:

Provide the JES output class(es) that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES class (A-Z or 0-9)

Up to 36 characters to specify the JES output class(es) to be processed

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. C=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Classes A-H, L, X, And 9.**
CLASS=ABCDEFGHL9
.....

Control Command:

Data Class Override: DC|DA||DATACLAS =

Class

Description:

Provide the default SMS Data Class name (up to 8 characters) of the Specific Dataclas that you want to use for all output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default data class that you have set up in your data class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Data Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. DC=,

The default is blank, meaning that the DATACLAS for the specified HLQ will not be overridden by this task.

Example:

.....
*** Point the output from SysSpool to the SPOOL Data Class**
HLQ=PRT,Age=,HELD=ALL,DATACLAS=SPOOL
.....

Control Command:

DEBUG mode: DEBUG =

Yes or No (default is NO)

Description:

This setting is should be used under the direction of Syzygy technical Support only. It will place SyzSPOOL in a DEBUG mode which will print extra detail information under certain circumstances, it should not be used in day-to-day operation.

Parameters:

Yes or No

Yes - will cause SyzSpool to execute in DEBUG mode
No - will bypass DEBUG processing

Note: Value can be un-SET by specifying a null value:
i.e. DEBUG=,

The default is blank, meaning that special DEBUG processing will NOT be entered.

Example:

.....

HLQ=PRT,Age=,HELD=ALL,NOTIFY=YES,DEBUG=YES

Control Command:

Destination name of output: D| DEST =

xxxxxxxxxxxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 18 character) JES output destinations) that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES supported destination or NODE.USERID, or NODE.REMOTE

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. DEST=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All of the Payroll destinations.**
DEST=PAY*

*** Just output queued to the SPOOLOFF destination.**
DEST=SPOOLOFF
.....

Control Command:

DETAIL message log mode: DETAIL =

Yes or No (default is NO)

Description:

This parameter will display extra information in the SyzSPOOL log for each job that is processed by SyzSPOOL. That extra information includes the assigned Management class, Storage Class, Data Class, Retain Days, Volume and other information that is normally not displayed in the SyzSPOOL log.

Parameters:

Yes or No

Yes - will cause SyzSpool to produce extra messages in the log
No - will bypass the extra message processing

Note: Value can be un-SET by specifying a null value:
i.e. DETAIL=,

The default is blank, meaning that special log message processing will NOT be performed.

Example:

.....

HLQ=PRT,Age=,HELD=ALL,NOTIFY=YES,DETAIL=YES

Control Command:

FORM name of output: F| FORM =

xxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 8 character) JES output FORMS specification that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES supported FORM

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. FORM=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All of the STD1 through STD9 forms.**
FORM=STD*

*** Reset form to nothing so that all forms are okay to manage.**
FORM=,
.....

Control Command:

Form Control Buffer of output: FCB =

xxxx

Description:

Provide the Forms Control Buffer name that SyzSpool should use as a selection parameter for selecting output to be processed. Select all FCB's is the default.

Parameters:

xxxx

any 4 characters that match the required FCB name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. FCB=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Use fcb3 FCB**
FCB=FCB3
.....

Control Command:

High Level Qualifier of Output : H | HLQ =

xxx

Description:

THIS IS A REQUIRED PARAMETER!!!

Provide the installation defined one to four character HLQ (High Level Qualifier) of the output datasets to be created by SyzSpool that will contain the JES spool output. This HLQ should be defined as supported in the installations Storage Class, ACS routines so that the output can be directed to a SMS pool. It is STRONGLY suggested that this HLQ be used only for this facility, some sites, depending on retention, can have several million jobs retained at a time, so keeping them separate is a good idea.

Parameters:

xxx

Default: "PRT"

Up to 3 characters to create the HLQ of the output datasets. This HLQ must follow normal IBM restrictions for High Level Qualifiers.

There is no default for this parameter, and an entry is required.

Example:

.....
*** All datasets should start with PRT**
HLQ=PRT,AGE=3D,HELD=NO
.....

Control Command:

Queue processing options: HELD =

Y| Yes | N | No | A | All

Description:

Provide whether SyzSpool should process ONLY normal "print queue" output (No), Both Normal and TSO Held output (Yes) or all output queues including XWTR HELD and Normal (ALL). NO is the default.

Parameters:

Y| Yes | N | No | A | All

Only the above characters or words are supported.

N or NO - allows SyzSpool to ONLY process normal output queue.
Y or YES - allows SyzSpool to process both Output and HELD queues
A or ALL - allows SyzSpool to process all queues including X-WTR queue.

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. HELD=,

The default is "NO", meaning that only the normal output queue is used for selection.

Example:

.....
*** All datasets should start with PRT**
HLQ=PRT,AGE=3D,HELD=NO
.....

Control Command:

JOB name of output: J| JNM|JOBNAME =

xxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 8 character) JOB name that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES supported JOBNAME

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. JOBNAME=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All Payroll JOBS.**
J=PAY*
.....

Control Command:

Batch JOB Management Class Override: JM|JMGCL =

Class

Description:

Provides the Management Class name (up to 8 characters) of the Specific Management class that you want to use for all Batch JOB output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default management class (if provided) by the MGMTCLAS= parameter or that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Management Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. JMGCL=,

The default is blank, meaning that the MGMTCLAS for Batch JOB output will not be overridden by this task.

Example:

.....
*** Point the output from for Batch JOBs to the 90 day retention SPOOL90 Management Class**
HLQ=PRT,Age=,HELD=ALL,JMGCL=SPOOL90

Control Command:

Journal Processing: JOURNAL =

Yes or No (default is NO)

Description:

Provide the ability to log information about each output dataset, including the maximum condition or abend code and many other informational fields, that is offloaded by SyzSpool to a VSAM format journal file. This file must be pre-allocated, (see the instructions in the install portion of this manual). The default is to create this file, and it is "strongly" suggested that you take advantage of this capability. If you decide to use the Journal, you will need to take note of the batch synchronize processing that needs to take place to keep the catalogs and the VSAM journal in sync. This process is quite fast, but is necessary to keep things in proper order.

Journal file Record length = Variable 255 Bytes - 32K
Journal File Key Length = 29

Journal File Contents JOB record (type "10"):

Location	Description	Format	Length	
Key start at location 0:				
0-1	**Record Type**	**Char**	**2**	**(00-custid, 10-Job jrnl, 20-DD jrnl)**
2-9	**Jobname**	**Char**	**8**	
10-15	**Date**	**Char**	**6**	
16-19	**Time**	**Char**	**4**	
20-26	**JOB ID**	**Char**	**7**	
27	**Sequence Byte**	**Char**	**1**	
Key end				
28-31	**TOD first DD created**	**X**	**4**	
32-35	**Date Job Submitted**	**X**	**4**	
36-39	**Time Job Submitted**	**X**	**4**	**(Since mdnight)**
40-47	**Owner of this JOB**	**Char**	**8**	**(RACF/ACF2 Userid)**

48	**JES DD's exist**	**X**	**1**	**(Bit settings)**
49-52	**Total number of DD**	**X**	**4**	
53-55	**Maximum CC, JOB**	**X**	**3**	
56-58	**Last Abend Code**	**X**	**3**	**(System first, then User)**
59-62	**Line Count**	**X**	**4**	**(this file, not just DD)**
63-66	**Page Count**	**X**	**4**	**(this file, not just DD)**
	Record Count	**X**	**4**	**(JES3 only)**
67-71	**SAPI Flag bytes**	**X**	**5**	
72-73	**Max LRECL**	**X**	**2**	
74-93	**Job Programmer**	**Char**	**20**	
94-101	**Notify Node**	**Char**	**8**	
102-109	**Notify UserID**	**Char**	**8**	
110-117	**Submit Node**	**Char**	**8**	
118-125	**Execution Node**	**Char**	**8**	
126-133	**Output Node**	**Char**	**8**	
134-137	**JES MAS Member**	**Char**	**4**	
138	**Output location**	**Char**	**1**	**(0=dasd, 1=ml/1, 2=ml/2)**
139	**Delete Status**	**Char**	**1**	**(blank, 0,1,or 2)**
140-141	**Days to retain output**	**X**	**2**	
142-145	**Date offloaded**	**X**	**4**	
146	**Unused**	**Char**	**1**	
147-151	**Date Offloaded Julian**	**Char**	**5**	
152-159	**Management Class**	**Char**	**8**	
160	**Entry added by SYNC**	**Char**	**1**	**(0=no, 1=Yes)**
161-165	**Last Sync Date**	**Char**	**5**	
166	**Status Key**	**Char**	**1**	**(blank, or D)**
167-171	**Displayable MaxRC**	**Char**	**5**	
172-175	**Displayable #DD's**	**Char**	**4**	
176	**Displayable JMSG**	**Char**	**1**	**(Y or N)**
177	**Displayable JJCL**	**Char**	**1**	**(Y or N)**
178	**Displayable JSYS**	**Char**	**1**	**(Y or N)**
179-186	**Displayable #Lines**	**Char**	**8**	
187-194	**Displayable #Pages**	**Char**	**8**	
195	**Origin Output Class**	**Char**	**1**	
196-254	**(reserved)**	**Char**	**59**	

Parameters:

Yes or <u>No</u>

Yes - will cause SyzSpool to maintain the VSAM journal file
No - will bypass Journal processing

Note: It is STRONGLY suggested that you decide on YES or NO at startup time and not change it during processing as you will end up with some data journaled and some not journaled.

The default is blank, meaning that the VSAM journal will not be maintained or processed.

Example:

```
.....
*Keep a VSAM JOURNAL of the datasets as they are created.
HLQ=PRT,Age=,HELD=ALL,JOURNAL=YES
```

Control Command:

Maximum JOB|STC|TSU number of output: JH =

nnnnnnn

Description:

Provide the (up to 7 digit) JES JOB|STC|TSU number for MAXIMUM (or only) number of the output ID to be selected by SyzSpool. If specified with the JL option (LOW RANGE), only those JOB|STC|TSU outputs that have a ID number between the two specified numbers (inclusive) will be selected for processing by SyzSpool. Any output with a JOB|STC\TSU number ID less than that specified will be bypassed.

Parameters:

Any 1 to 7 digit number (max 9999999)

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. JH=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Select all jobs between J0001100 and J0001199**
JL=1100, JH=1199

*** Reset lower limit to nothing so that all JOB|STC|TSU higher than J0001100 are managed.**
JH=,
.....

Control Command:

Minimum JOB|STC|TSU number of output: JL =

nnnnnnn

Description:

Provide the (up to 7 digit) JES JOB|STC|TSU number for MINIMUM (or only) number of the output ID to be selected by SyzSpool. If specified with the JH option (HIGH RANGE), only those JOB|STC|TSU outputs that have a ID number between the two specified numbers (inclusive) will be selected for processing by SyzSpool. Any output with a JOB|STC\TSU number ID less than that specified will be bypassed.

Parameters:

Any 1 to 7 digit number (max 9999999)

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. JL=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Select all jobs between J0001100 and J0001199**
JL=1100, JH=1199

*** Reset lower limit to nothing so that all JOB|STC|TSU up to J0001199 are managed.**
JL=,
.....

Control Command:

Minimum number of lines in output: LL|LINEL =

nnnnnnnn

Description:

Provide the (up to 8 digit) JES output MINIMUM number of lines specification that the output must have to be managed by SyzSpool. Any output with a number of lines less than that specified will be bypassed.

Parameters:

Any 1 to 8 digit number (max 99,999,999 lines)

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. LL=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Don't manage JOBs less than 10 or more than 500,000 lines.**
LL=10,LX=500000

*** Reset lower limit to nothing so that all JOBS up to the previous 500,000 lines are managed.**
LL=,
.....

Control Command:

Maximum number of lines in output: LX|LINEX =

nnnnnnnn

Description:

Provide the (up to 8 digit) JES output MAXIMUM number of lines specification that the output can have to be managed by SyzSpool. Any output with a number of lines greater than that specified will be bypassed.

Parameters:

Any 1 to 8 digit number (max 99,999,999 lines)

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. LX=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Don't manage JOBs less than 10 or more than 500,000 lines.**
LL=10,LX=500000

*** Reset upper limit to nothing so that all JOBS are managed.**
LL=,LX=
.....

Control Command:

Maximum Retain Days (non-SMS): MAXRET =

nnnn (numeric, max of 9999 days)

Description:

If SMS is not active or not in use, this parameter provides the specification of the MAXIMUM number of days that ANY task of ANY type can be retained by SyzSPOOL. The default is no limit to the number of days for the dataset names that SyzSpool builds.

Parameters:

nnnn

(up to) 4 numeric digits.

Example:

*** nothing to be retained no longer than 2 years**

MAXRET=730

Control Command:

Management Class Override: MGCL|MGMTCLAS =

Class

Description:

Provide the Management Class name (up to 8 characters) of the Specific Management class that you want to use for all output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default management class that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Management Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. MGCL=,

The default is blank, meaning that the MGMTCLAS for the specified HLQ will not be overridden by this task.

Example:

.....
*** Point the output from SysSpool to the 60 day retention SPOOL60 Management Class**
HLQ=PRT,Age=,HELD=ALL,MGCL=SPOOL60

Control Command:

Notify Processing: N|NOTIFY =

Yes or No (default is NO)

Description:

Provide the ability to send a message to the person named in the JOBCARD NOTIFY= parameter or in the JES2 /*NOTIFY JECL card. If this parameter is set to "YES", and IF the JOBCARD or /* card NOTIFY is set to a valid userid, then that userid will receive a message telling them that the output has been processed by SyzSpool when it is removed from the JES2spool volume and placed into the SyzSpool output dataset. If the userid is invalid, or not specified on the JOBCARD, then no processing is performed.

Parameters:

Yes or No

Yes - will cause SyzSpool to send a message to the user
No - will bypass notify processing

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. NOTIFY=,

The default is blank, meaning that users will NOT be notified when their job is processed.

Example:

.....
***Send the notification that SyzSpool has processed the user's JOB**
HLQ=PRT,Age=,HELD=ALL,NOTIFY=YES

Control Command:

ORIGIN select by NJE origin node of output: ORIGIN =

xxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 8 character) JES output origin node (where the JOB was submitted not necessarily where it executed) specification that the output must be one of (the JOB was submitted at that NODE) to be managed by SyzSpool.

Parameters:

Any JES supported ORIGIN

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. ORIGIN=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All of the Production nodes.**
ORIGIN=PROD*

*** Reset ORIGIN to nothing so that all ORIGINs are okay to manage.**
ORIGIN=,
.....

Control Command:

Minimum number of pages in output: PL|PAGEL =

nnnnnnnn

Description:

Provide the (up to 8 digit) JES output MINIMUM number of PAGES specification that the output must have to be managed by SyzSpool. Any output with a number of PAGES less than that specified will be bypassed.

Parameters:

Any 1 to 8 digit number (max 99,999,999 PAGES)

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. PL=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Don't manage JOBs less than 10 or more than 500 Pages.**
PL=10,PX=500

*** Reset lower limit to nothing so that all JOBS up to the previous 500 pages are managed.**
PL=,
.....

Control Command:

Maximum number of pages in output: PX|PAGEX =

nnnnnnnn

Description:

Provide the (up to 8 digit) JES output MAXIMUM number of PAGES specification that the output can have to be managed by SyzSpool. Any output with a number of PAGES greater than that specified will be bypassed.

Parameters:

Any 1 to 8 digit number (max 99,999,999 lines)

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. PX=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Don't manage JOBs less than 10 or more than 500 pages.**
PL=10,PX=500

*** Reset upper limit to nothing so that all JOBS are managed.**
PL=,PX=
.....

Control Command:

PRMODE select by process mode of output: PRMODE =

xxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 8 character) JES output Process mode (PRMODE) specification that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES supported PRMODE

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. PRMODE=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All of the XEROX1 through XEROX9 PMODEs.**
PRMODE=XEROX*

*** Reset PRMODE to nothing so that all PRMODEs are okay to manage.**
PRMODE=,
.....

Control Command:

Retain Entry (days) by taskname (non-SMS): RE =

Taskname/nnnn	**(slash "/" character is required)**
Generic Taskname/nnnn	**(slash "/" character is required)**

Description:

If SMS is not active or not in use at this site, this setting provides the specification of a number of days to "retain" the output data for specific or generic tasks. You can add or change entries at any time throughout the life of the session via a modify command. The default is to use the RETAIN setting (defined later in this manual) (if provided) by the TSU/JOB/STC, then (if not found to use the RETAIN= parameter or if that is also not set, to use no retention at all for the dataset names that SyzSpool builds, the setting may not exceed that set with the MAXRET= parameter.

Parameters:

Taskname (or generic) / number of days to retain (9999 max)

any (up to) 8 characters that match the task you wish to set the class of, this can be a JOB, TSO user or Started Task name (or generic). The TASK may NOT start with a generic character. Generics' are specified with either single character generic "%" or the "rest of name" generic character "*". The system will automatically sort the entries, and the most specific entry will be used first, followed by the generic match.

Example:

.....
*** Output from JOB "SPOOLTST" will be retained 1 day**
*** Output from all PRODJOB% tasks will be retained 365 days**
*** Output from all ZX%JOBn tasks will be retained 60 days**
*** Output from all TESTxxxx tasks will be retained 10 days**

TE=SPOOLTST/1,TE=PRODJOB%/365,
TE=ZX%JOB*/60,
TE=TEST*/10,

Control Command:

Retain Days (non-SMS): RET|RETAIN =

nnnn (numeric, max of 9999 days)

Description:

If SMS is not active or not in use, this parameter provides the specification of the default number of RETAIN that ANY task of ANY type can be retained by SyzSPOOL. This parameter can be overridden by the Rx= (RT,RS,RJ), or the RE= parameters and may not exceed the value of MAXRET (if used). The default is no limit to the number of days for the dataset names that SyzSpool builds.

Parameters:

nnnn

(up to) 4 numeric digits.

Example:

*** default is to be retained 1 year**

RET=365

Control Command:

Retain JOBs (non-SMS): RJ =

nnnn (numeric, max of 9999 days)

Description:

If SMS is not active or not in use, this parameter provides the specification of the default number of RETAIN that any BATCH JOB can be retained by SyzSPOOL. This parameter can be overridden by the RE= parameter and may not exceed the value of MAXRET (if used). The default is no limit to the number of days for the dataset names that SyzSpool builds.

Parameters:

nnnn

(up to) 4 numeric digits.

Example:

*** default is to be retain all JOBs for 60 days**

RJ=60

Control Command:

Retain Started Tasks (non-SMS): RS =

nnnn (numeric, max of 9999 days)

Description:

If SMS is not active or not in use, this parameter provides the specification of the default number of RETAIN that any Started Task output can be retained by SyzSPOOL. This parameter can be overridden by the RE= parameter and may not exceed the value of MAXRET (if used). The default is no limit to the number of days for the dataset names that SyzSpool builds.

Parameters:

nnnn

(up to) 4 numeric digits.

Example:

*** default is to be retain all STCs for 60 days**

RS=60

Control Command:

Retain TSO User Output (non-SMS): RT =

nnnn (numeric, max of 9999 days)

Description:

If SMS is not active or not in use, this parameter provides the specification of the default number of RETAIN that any TSO User output can be retained by SyzSPOOL. This parameter can be overridden by the RE= parameter and may not exceed the value of MAXRET (if used). The default is no limit to the number of days for the dataset names that SyzSpool builds.

Parameters:

nnnn

(up to) 4 numeric digits.

Example:

*** default is to be retain all TSUs for 60 days**

RT=60

Control Command:

Select Output Type(s): SELECTxxx=

SELECTALL, SELECTStc, SELECTTso,SELECTJob,SELECTAppc
(default is ALL)
SELECTNOTso,SELECTNOStc,SELECTNOJob,SELECTNO Appc or SELECTNOALL (deselects all types of input)

Description:

Provide the ability to control which types of output that SyzSpool should process. The default is to process all output regardless of whether it came from a Started Task, TSO User, Batch JOB or APPC task. If you don't include this parameter, it is the same as specifying SELECTALL. Alternatively, you could unselect any of the above types via the SELECTNOxxx command.

SELECTALL - Selects ALL output types
SELECTNOALL - Un-selects ALL output types
SELECTStc - Selects Started Task output
SELECTNOStc - Un-selects Started Task output
SELECTTso - Selects TSO User output
SELECTNOTso - Un-selects TSO User output
SELECTJob - Selects Batch JOB output
SELECTNOJob - Un-selects Batch JOB output
SELECTAppc - Selects APPC Task output
SELECTNOAppc - Un-selects APPC Task output

Parameters:
NONE

Example:

.....
***Select only Started task and Batch output**
HLQ=PRT,Age=,HELD=ALL,SELECTSTC,SELECTJOB

Control Command:

Separator mode: SEP =

No (default is NO) or anything else

Description:

Provide the ability to control the amount of detail in the SyzSpool output dataset separator. By default, SyzSpool will create the following record in the output dataset between each JES2 output dataset within a JOB.

****ZSP101I JOBNAME(SYZSPL70),JOBID(JOB00636),DDNAME(JESMSGLG),RECORDS(16)*****

The above entry identifies the JOBNAME, JOBID, DDNAME of the JOB,LINECOUNT and PAGECOUNT.

If you request Detailed mode separators, then the separator will be as follows:

****ZSP101I SYZSPL70J000636STEPNAMEPROCSTEPDDNAME....**
****ZSP102I .....**

Which adds the following fields to the separator. There are no spaces between these fields, and they are in the unprocessed format as received from the JES2 subsystem. They are meant to be programmatically processed, not generally read, but you can process them manually if necessary.

ZSP101I record:

Column	Field Description	Format	Length
1-9	"**ZSP101I"	Char	9
10	blank		1
11-18	JOBNAME	Char	8
19-25	JOBID	Char	7
26-33	STEPNAME	Char	8

34-41	**PROCSTEP**	**Char**	**8**	
42-49	**DDNAME**	**Char**	**8**	
50	**CLASS**	**Char**	**1**	
51-54	**Lines in this DD**	**X**	**4**	
55-58	**Pages in this DD**	**X**	**4**	
59-61	**Maximum CC (JOB)**	**X**	**3**	
62-64	**Last Abend Code**	**X**	**3 (System code first, then User code)**	
65-72	**OwnerID**	**Char**	**8**	
73	**SAPI flag 1**	**B**	**1**	
74	**SAPI Flag 2**	**B**	**1**	
75	**SAPI Flag 3**	**B**	**1**	
76	**SAPI Flag 4**	**B**	**1**	
77	**SAPI Flag 5**	**B**	**1**	
78-79	**MLRECL of this DD**	**X**	**2**	
80	**Lines per page**	**X**	**1**	

ZSP102I record:

Column	**Field Description**	**Format**	**Length**	
1-9	**"**ZSP102I"**	**Char**	**9**	
10	**blank**		**1**	
11-18	**Destination this DD**	**Char**	**8**	
19-26	**FORM Name**	**Char**	**8**	
27-34	**Notify ID**	**Char**	**8**	
35-38	**FCB name this DD**	**Char**	**4**	**("****" if default)**
39-42	**UCS name this DD**	**Char**	**4**	**("****" if default)**
43-50	**Writer Name this DD**	**Char**	**8**	
51-54	**TOD this DD created**	**X**	**4**	**(STCK format)**
55-58	**DATE this JOB Start**	**X**	**4**	
59-62	**Time this JOB started**	**X**	**4**	**(time since midnight)**
63-80	**Jobcard Programmer**	**Char**	**17**	

Parameters:

No or Anything

No (or blank) - will use the default single line separator
Anything else - Will use the Detail (2 line) mode separator

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. SEP=,

The default is blank, meaning that the default SINGLE LINE separator will be used.

Example:

.....
***Set the detailed (3 line) separator mode**
HLQ=PRT,Age=,HELD=ALL,SEP=DETAIL

Control Command:

DF/SMS controlled Processing: SMS =

Yes or No (default is YES)

Description:

Provide the ability to run SyzSPOOL without SMS control. It is recommended that you run SyzSPOOL under SMS control to take advantage of the built-in retention capabilities of the DF/SMS component of z/OS. IF you decide to set this to "NO", (meaning that you do NOT want SMS control of the output datasets), then you will need to be sure that you have set the UNIT= and/or VOLSER= parameters to match where you want SyzSPOOL to place the output. If you specify both UNIT= and VOLSER= then you will could be limiting yourself to a single VOLUME for output.

Parameters:

Yes or No

Yes - will cause SyzSpool to use SMS controls and Constructs
No - will use internal settings provided by the user for allocation control

The default is blank, meaning that SMS constructs will be used
Example:

.....
***Force SyzSPOOL to use only the SYZ002 volume**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=SYSDA,VOLSER=SYZ002

***Force SyzSPOOL to use the TSO* volumes (Unit=TSO)**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=TSO

***Force SyzSPOOL to use only the any mounted PUBLIC vols**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=SYSDA

Control Command:

Spool Volume of output: SPL =

Volser

Description:

Provide the Volume serial (up to 6 characters) of the Specific Spool Volume VOLSER that SyzSpool should use as a selection parameter for selecting output to be processed. Select all Spool volumes's is the default.

Parameters:
Volser

any (up to) 6 characters that match the required JES spool volumes serial

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:
i.e. SPL=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Get all jobs off the SPL005 volume**
HLQ=PRT,Age=,HELD=ALL,SPL=SPL005
.....

Control Command:

STC Management Class Override: SM|SMGCL =

Class

Description:

Provides the Management Class name (up to 8 characters) of the Specific Management class that you want to use for all STC (Started Task) output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default management class (if provided) by the MGMTCLAS= parameter or that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Management Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. SMGCL=,

The default is blank, meaning that the MGMTCLAS for Started Task output will not be overridden by this task.

Example:

.....
*** Point the output from for STC's to the 90 day retention SPOOL90 Management Class**
HLQ=PRT,Age=,HELD=ALL,SMGCL=SPOOL90

Control Command:

Storage Class Override: STCL|STORCLAS =

Class

Description:

Provide the Storage Class name (up to 8 characters) of the Specific Storage class that you want to use for all output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default storage class that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Storage Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. STCL=,

The default is blank, meaning that the STORCLAS for the specified HLQ will not be overridden by this task.

Example:

.....
*** Point the output from SysSpool to the SPOOL Storage Class**
HLQ=PRT,Age=,HELD=ALL,STCL=SPOOL
.....

Control Command:

TSO User Management Class Override: TM|TMGCL =

Class

Description:

Provides the Management Class name (up to 8 characters) of the Specific Management class that you want to use for all TSO output from this session. You can change this entry at any time throughout the life of the session via a modify command. The default is to use the default management class (if provided) by the MGMTCLAS= parameter or that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Class

any (up to) 8 characters that match the required Management Class name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. TMGCL=,

The default is blank, meaning that the MGMTCLAS for TSO User Task output will not be overridden by this task.

Example:

.....
*** Point the output from for TSO Users to the 10 day retention SPOOL10 Management Class**
HLQ=PRT,Age=,HELD=ALL,TMGCL=SPOOL10

Control Command:

Task Entry Management Class Override: TE =

Taskname/Class	**(slash "/" character is required)**
Generic Taskname/Class	**(slash "/" character is required)**

Description:

Provides the specification of a Management Class name for specific or generic tasks. You can add or change entries at any time throughout the life of the session via a modify command. The default is to use the default management class (if provided) by the TSU/JOB/STC, then (if not found to use the MGMTCLAS= parameter or that you have set up in your storage class routines for the dataset names that SyzSpool builds.

Parameters:

Taskname (or generic) / managementclass

any (up to) 8 characters that match the task you wish to set the class of, this can be a JOB, TSO user or Started Task name (or generic). The TASK may NOT start with a generic character. Generics' are specified with either single character generic "%" or the "rest of name" generic character "*". The system will automatically sort the entries, and the most specific entry will be used first, followed by the generic match.

Example:

.....
*** Output from JOB "SPOOLTST" will use DELETEME management class**
*** Output from all PRODJOB% tasks will use SPOOL365 management class**
*** Output from all ZX%JOBn tasks will use SPOOL60 management class**
*** Output from all TESTxxxx tasks will use SPOOL10 management class**
*** Output from all CICSxxxx tasks will use SPOOL30 management class**

TE=SPOOLTST/DELETEME,TE=PRODJOB%/SPOOL365,
TE=ZX%JOB*/SPOOL60,
TE=TEST*/SPOOL10,

TE=CICS*/SPOOL30

Control Command:

UserID of output Owner : U | UID | USER |USERID =

Axxxxxxx | * and ? Wildcards are supported

Description:

Provide the UserID of the job submittor or owner of the output. Only JES output in the Spool that matches the specified USERID will be managed by SyzSpool.

Parameters:

Axxxxxxx

Up to a 8 characters to specify the RACF (or ACF2 or TopSecret) ID of the owner of this output. The normal Security system, restrictions apply to this field. This parameter supports the selection by WildCard characters * and ?, where "*" refers to multiple characters and "?" refers to a single character.

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. UID=,

The default is blank, meaning that it is not used as criteria for selection.

Example:

.....

*** Specify all Human Resources users.**

HLQ=PRT,AGE=3D,HELD=NO,USER=HR*

or

*** Specify all ID's that start with A21 and end with a 1**

USER=A21*1

or

***Specify all users that match any first character followed by 23456**

USER=?23456

.....

Control Command:

Force Specific Allocation UNIT: UNIT =

Any Valid UNITNAME (default is SYSDA)

Description:

Provide the ability to run SyzSPOOL without SMS control. It is recommended that you run SyzSPOOL under SMS control to take advantage of the built-in retention capabilities of the DF/SMS component of z/OS. IF you decide to set SMS to "NO", (meaning that you do NOT want SMS control of the output datasets), then you will need to be sure that you have set the UNIT= and/or VOLSER= parameters to match where you want SyzSPOOL to place the output. If you specify both UNIT= and VOLSER= then you will could be limiting yourself to a single VOLUME for output.

Parameters:

Any VALID UNITNAME (default is SYSDA)

Note: If SMS is let to default or set to "YES" then this parameter is ignored.
Example:

.....
***Force SyzSPOOL to use only the SYZ002 volume**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=SYSDA,VOLSER=SYZ002

***Force SyzSPOOL to use the TSO* volumes (Unit=TSO)**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=TSO

***Force SyzSPOOL to use only the any mounted PUBLIC vols**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=SYSDA

Control Command:

Universal Character Set of output: UCS =

xxxx

Description:

Provide the Universal Character Set name that SyzSpool should use as a selection parameter for selecting output to be processed. Select all UCS's is the default.

Parameters:

xxxx

any 4 characters that match the required UCS name

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. UCS=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** Use AMR1 UCS**
UCS=AMR1
.....

Control Command:

VOLUME allocation Processing: VOLSER =

Any Valid VOLUME SERIAL (no default)

Description:

Provide the ability to run SyzSPOOL without SMS control. It is recommended that you run SyzSPOOL under SMS control to take advantage of the built-in retention capabilities of the DF/SMS component of z/OS. IF you decide to set SMS to "NO", (meaning that you do NOT want SMS control of the output datasets), then you will need to be sure that you have set the UNIT= and/or VOLSER= parameters to match where you want SyzSPOOL to place the output. If you specify both UNIT= and VOLSER= then you will could be limiting yourself to a single VOLUME for output.

Parameters:

Any VALID VOLUME SERIAL (There is no default)

Note: If SMS is let to default or set to "YES" then this parameter is ignored.
Example:

.....
***Force SyzSPOOL to use only the SYZ002 volume**
HLQ=PRT,Age=,HELD=ALL,SMS=NO,UNIT=SYSDA,VOLSER=SYZ002

Control Command:

External Writer name of output: W| WTR|WRITER =

xxxxxxxx * and ? Wildcards are supported

Description:

Provide the (up to 8 character) external writer name that the output must be one of to be managed by SyzSpool.

Parameters:

Any JES supported Writer name

Wildcards are supported

Note: Value can be un-SET (rendered not a selection criteria) by specifying a null value:

i.e. WTR=,

The default is blank, meaning that it is not used as a criteria for selection.

Example:

.....
*** All Q writer jobs.**
WTR=QWTR

***Any of the Xnnnnn writers**
WTR=X*
.....

Notes / Messages