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Native Mode Spooler Questions and Answers Version 2



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HP 3000 Application Note #93

Native Mode Spooler Questions and Answers Version 2

Introduction

This Application Note presents some common questions and answers on Native Mode Spooler. The Native Mode Spooler was introduced on MPE/XL G.40.00 (2.1).

- Q. I have notice a problem with the headers of my printers they are still on after a system startup. I have a HEADOFF command in my SYSSTART file for each of my printers.

What is wrong? Why are the headers not being turned off?
How can I get them off?

- A. With the Native Mode Spooler, on MPE/XL G.40.00 (2.1) or later, there may be a timing problem between the time the STARTSPOOL takes effect and the time that the HEADOFF is issued. The spooling process must be completely running before a HEADOFF can be successfully issued.

If the HEADOFF is issued before the process is running, it will not take effect. Including the HEADOFF command in the SYSSTART file may issue the command too soon.

It is recommended that the HEADOFF command be placed in a separate job that the SYSSTART file can stream. This should ensure that the spooling processes are completely started before the command is issued.

* * * * *

- Q. What is the order that spoolfiles print on the Native Mode Spooler?

- A. Refer to the Native Mode Spooler Reference Manual, (HP part number 32650-60063) pages 4-39:

A spooled output device processes spoolfiles first in order of priority and then the time the spoolfile entered the READY state.

- Q. Prior to MPE XL version A.41.00 (2.2) if I had multiple copies of two spoolfiles, they would print with interleaving (that is one copy of the first file, one copy of the second file, one copy of the first file, etc.). As of 2.2, the spoolfiles do not interleave and all copies of the first spoolfile are printed prior to printing any of the copies of the second spoolfile. I have two spoolfiles that, together, comprise one report. The interleaving function is necessary in order to alleviate a lot of bursting and sorting of printouts. Is there a workaround that would enable me to accomplish the interleaving function?
- A. In order to accomplish the interleaving effect on version 2.2, you could merge the two spoolfiles into one and then print the one spoolfile multiple times. The following illustrates how to append spoolfiles on the Native Mode Spooler:

1. Set up file equations for the source(from) and destination(to) files:

```
:file from1=0nnn.out.hpspool;copy
:file from2=0nnn.out.hpspool;copy
:file from3=0nnn.out.hpspool;copy
:file to=myspool;cctl;copy;disc=nnn;acc=append
```

(appended file which will be an unlinked spoolfile
saved in the group/acct you are logged into)

(the disc=nnn will be needed if the appended file
will be greater than the default size of 1023
records)

2. Initiate the FCOPY process to actually copy/append the files.

```
:fcopy
>from=*from1;to=*to;new;cctl
>from=*from2;to=*
>from=*from3;to=*
>exit
```

3. The resulting unlinked spoolfile, myspool, can now be linked to the OUT.HPSP00L account with the SP00LF command:

```
:spoolf myspool;print (;copies=nn to change the copies thus
simulating interleaving).
```

Note When done, you may want to purge the original spoolfile and the file,
 MYSPPOOL.

Q. How do I append a Native Mode spoolfile to an environment file for my HP2680 Laser Printer?

A. Follow these steps:

In order to append a Native Mode spoolfile to an environment file do the following:

1. Copy the environment to a spool file.

```
:file env;dev=lp,1;cctl;env=lp2.hpenv.sys
:fcopy from=;to=*env
HP32212A.03.30 FILE COPIER (C) HEWLETT-PACKARD CO. 1990
*200*WARNING; FROMFILE RECSIZE IS 80 BYTES, TOFILE RECSIZE IS
132 BYTES CONTINUE OPERATION (Y OR NO) ?Y -----> type "Y"

< CONTROL Y >            <notice that a CONTROL Y needs to be done>

0 RECORDS PROCESSED *** 0 ERRORS
END OF SUBSYSTEM
```

2. Use a file equation to set up a reference to the spoolfile

from the above fcopy of the env file:

```
:file from1=0nnn.OUT.HPSPOOL;COPY
```

3. Use file equation to set up spoolfile to be "appended" to.

```
:file from2=0nnn.OUT.HPSPOOL;COPY
```

4. Use a file equation to set up the appended file which will be an unlinked spoolfile saved in the group/acct you are logged into.

```
:file to=myspool;cctl;copy;disc=nnn;acc=append
```

(the disc=nnn will be needed if the appended file will be greater than the default size of 1023 records)

5. FCOPY the files:

```
:fcopy
>from=*from1;to=*to;new;cctl
```

```
>from=*from2;to=*  
>exit
```

6. The resulting unlinked spoolfile, myspool, can now be linked to the OUT.HPSPPOOL account with the SPOOLF command:

```
:spoolf myspool;print
```

Note When done, you may want to purge the original spoolfile and the file, MYSPPOOL.

- Q. I would like to modify an NM spoolfile and/or copy it to a fixed ASCII flat file. How can I do this?

- A. In order to modify an NM spoolfile and/or copy it to a fixed ASCII flat file do the following:

```
:FILE x;DEV=DISC;REC=-132,,F,ASCII;DISC=nnn;CCTL;STD;CODE=0  
:FCOPY FROM=Onnn.OUT.HPSPPOOL;TO=*x;CCTL;NEW  
:EDITOR  
1) x  
/ a .01  
.01 A -- Use an A if in the original spoolfile, the P2 parameter,  
.02 C which can be found from a printspf of the spoolfile, is  
.03 // set to 0001. Use an A and C if P2 is set to 0003.
```

Make any other changes you wish.

```
/K x,UNN
```

To copy this flat file back to the spooler:

```
:file y;dev=LP,1;cctl (;env= if there is an env_file)  
:fcopy from=x;to=*y;new;cctl
```

This will link the file,x, to the OUT.HPSPPOOL acct and assign it a spoolid number.

- Q. I am trying to look at my output file using the new Native Mode (NM) spooler. The instructions in the Native Mode Spooler Reference Manual, (HP part number 32650-60063) are:

```
:Run EDITOR  
/SET VARIABLE  
/t Onn.OUT.HPSPPOOL
```

When I do this, only columns 1 to 72 are displayed. How can I see the entire output record?

A. There are two ways to view the entire output record using

EDITOR:

1. Do not issue the SET VARIABLE command and ignore the warning which appears when the file is texted in:

*****WARNING*** RECORD SIZE TRUNCATED TO 255 BYTES.**

(You can ignore the warning because spoolfile records are rarely greater than 255 bytes in length.)

Or:

2. After you SET VARIABLE, issue a SET LENGTH=nn SET RIGHT=nn where nn equals size of your output records.

Both methods will result in the entire output record being displayed with wraparound.

* * * * *

Q. How do I reset the DFID numbers on the Native Mode Spooler?

A. There are three ways to accomplish this:

1. Issue the :SPOOLF 0;DELETE command, which will delete all output spoolfiles. Then, perform do a START NORECOVERY.

If you need those spoolfiles, make sure you save them to tape via STORE/RESTORE first so that you can bring them back when the system comes up.

With the introduction of the Native Mode spooler (MPE/XL version 2.1), the maximum possible DFID number on spoolfiles has been increased from 32,767 to 9,999,999.

2. Install. (This requires a complete system backup with directory and a current SLT tape. When doing the restore, do not restore OUT.HPSPPOOL)
3. Store the files to tape with ;purge option. Then, do a START NORECOVERY.

* * * * *

Q. When I issue a LISTFTEMP 0.0.0,2 in a batch job on my MPE XL

A.41.00 (2.2) system, I get the following files:

TEMPORARY FILES FOR USER.ACCOUNT,PUB

ACCOUNT= 3000devs GROUP= DEVICES

FILENAME	CODE	-----LOGICAL RECORD-----	-----SPACE-----					
	SIZE	TYP	EOF	LIMIT	R/B	SECTORS	#X	MX
00016384*	1516	1008B	VACS	0	2097151	1	2048	1 *
00016385*	1515	1008B	VAS	2	1	1	16	1 *

What is the purpose of these files?

- A. Starting with A.40.00 (2.1), the STDIN is 00016384.DEVICES.3000devs and the STDLIST is 00016385.DEVICES.3000devs. These are virtual device files and they represent a number higher than the highest possible ldev that can be configured on the system. The WHO intrinsic also returns 00016385 as the terminal number.

- Q. I am trying to text in a large Native Mode Spoolfile with EDITOR. However, I am having problems if the spoolfile is > 99,999 records. EDITOR should be enhanced to handle spoolfiles larger than 99,999 records.

- A. EDITOR is capable of numbering the records from 00000.001 to 99999.999 incrementing each line .001.

The default numbering scheme for EDITOR, however, is to start the line numbering at 1 and increment each line by 1. This allows for only 99,999 records.

To change the defaults, the EDITOR SET command can be used. For example:

```
:EDITOR
/SET DELTA=.001
/SET FROM=.001
/T 0962.OUT.HPSP00L
```

- Q. I have recently run out of permanent disk file space. Now when I

stream a job, I receive the following console message:

CAN'T FOPEN \$STDLIST FOR "user.acct,group", ON LDEV #10. (js 76)

and the job goes into the WAIT state. After freeing up some disk space, the jobs are still in the WAIT state. I have attempted to do an :OPENQ ldev command on each printer device, but I receive the following error message:

SPOOLING QUEUE OPENED FOR DEVICE 00000006, BUT NOT IN EFFECT SINCE SPOOLING QUEUES ARE GLOBALLY DISABLED. (CIWARN 4625)

How can I get my jobs to log on?

- A. When the NM SPOOLER cannot FOPEN \$STDLIST for whatever reason, in this case because of lack of disk space, it globally shuts the spooling queues down, similar to a :SHUTQ 0 command.

To globally enable the spooling queues, issue the following command:

:OPENQ 0

*** * * * ***

- Q. I have just updated my MPE XL system to A.40.00 (2.1) which includes the native mode spooler.

I often have to realign special forms or suspend a print job to allow an urgent spoolfile to print. What is the procedure to suspend the spooler and later resume at the beginning of my spoolfile?

- A. Issue the following command to suspend the spooler and set the offset to the beginning of the spoolfile:

:SPOOLER LP;SUSPEND;OFFSET=1

Using the 'OFFSET=1' at the time you suspend the spooler will assure that the offset is set to the beginning of the spoolfile. The default is to set the offset according to the last completed page of output. If you suspend the spooler and take the default of KEEP the 'OFFSET=1' can be specified when the spooler is resumed.

:SPOOLER LP;RESUME;OFFSET=1

If you take the default of KEEP and do not specify 'OFFSET=1' when you suspend the spooler and you decide to print a higher priority spoolfile you can use 'OFFSET=1' when you RELEASE the spoolfile.

:SPOOLER LP;RELEASE;OFFSET=1

If you specify the **NOKEEP** option when you suspend the spooler, always specify **'OFFSET=1'** if you want the spoolfile to print at the beginning.

If you want to confirm if the spooler was suspended with a **KEEP** or **NOKEEP** option, issue a **SHOW** on the spooler.

```
:SPOOLER LP;SHOW
LDEV DEV      SPSTATE  QSTATE  OWNERSHIP  SPOOLID
      6 00000006 SUSPEND  OPENED  OUT SPOOLER  #0321
```

If a **SPOOLID** exists then the **KEEP** option was used and the spooler will activate that spoolfile when a **RESUME** is issued, unless the spoolfile is released or deleted.

For further information, please use the Online Help Facility

```
:HELP SPOOLER ALL
```

or review chapter 3 in the Native Mode Spooler Reference Manual, (HP part number 32650-60063).

Q. How is the parameter **SELEQ=** for the **LISTSPF** command used?

A. In order to use the **SELEQ=** for the **LISTSPF** command, do the following:

```
:LISTSPF spoolid;SELEQ= ~indirect_file
                        [select_eq]
```

You must include the **[]** brackets

Examples:

Note	A user with SM or OP capability or a console user who specifies 00 will see all output spoolfiles on the system. A user with AM capability who specifies 00 will see all output spoolfiles created by users in the same account. All other users are limited to the files they have created. The default is all the output spoolfiles created by the current user.account. The default SPOOLID for the console user is all the output spoolfiles on the system.
-------------	---

1. List all spoolfiles that have been sent to class **LP** for all users

```
:LISTSPF 00;SELEQ=[DEV=LP AND OWNER=0.0]
```

2. List all spoolfiles that are in the **PRINT** state

:LISTSPF 00;SELEQ=[STATE=PRINT]

- 3. List all spoolfiles selected on \$stdlist**

:LISTSPF 00;SELEQ=[FILEDES=\$STDLIST]

- 4. List all spoolfiles with priority of 8**

:LISTSPF 00;SELEQ=[PRI=8]

- 5. List all spoolfiles in the SPSAVE state that were created on 11/20**

:LISTSPF 00;SELEQ=[(STATE=SPSAVE AND DATE=11/20/90)]

The complete syntax for the LISTSPF command is shown below:

```
LISTSPF [[IDNAME=] { spoolid          }]  
          {(spoolid [,spoolid ]...)}  
[[;SELEQ=] {[select-eq]    }]  
          {~indirect_file }  
[{:;DETAIL}]  
{:;STATUS}
```

*** * * * ***

- Q. How can I redirect the output of a command, such as LISTSPF, to a file?**

- A. Issue the following command:**

Choose a unique "filename" and refer to COMMUNICATOR 2.1 for Command Input/Output Redirection, page 2-12:

:LISTSPF(or other command) >filename

This will create a temporary file. You can see the file by issuing:

:LISTFTEMP filename

You can save this as a permanent file by issuing:

:SAVE filename

*** * * * ***

- Q. How can I print a file that has entered the SPSAVE state?**

- A. In order to print a file in the SPSAVE state you need to issue the following command:**

:SPOOLF filename.OUT.HPSPOOL;PRINT

Note The file name must be fully qualified.

Q. What is the 3000DEVS account?

- A. The 3000DEVS account is used to store configuration information for the Native Mode Spooler. This account will only exist on versions of MPE/XL 2.1 or later.

This account is used by the Native Mode Spooler and is not accessible by other users.

This file is not stored on the SLT or the STORE tape, it is created every time the system is bootup.

Q. In SYSGEN under MISC there is a new command I-0. What is this and what happened to the SPOOL command?

- A. The MISC SPOOL command was obsoleted when the Native Mode Spooler was introduced with MPE/XL version 2.1 (A.40.00). The IO command is listed as replacing the SPOOL command. There are three parameters to the IO command as listed below:

```
io (io)  [maxdyninput  = dynamic input devs]
          [maxdynoutput = dynamic output devs]
          [maxdynio     = dynamic I/O devs]
```

The Communicator for 2.2 INCORRECTLY states that these are the same as the IDD, ODD, XDD respectfully.

The maxdyninput and maxdynoutput are NOT used by MPE XL. The maxdynio is the maximum number of possible virtual terminal sessions. The maxdynio is not to be changed except by Hewlett-Packard.

The SHOW command will list the settings. The value under CURRENT is the currently configured amount.

```
misc> show io
```

IO command	parameter	MAX	MIN	CURRENT
DYNAMIC INPUT DEVS	maxdyninput	999	0	2
DYNAMIC OUTPUT DEVS	maxdynoutput	999	0	4
DYNAMIC IO DEVS	maxdynio	999	0	332

Q. How can I copy portions of a Native Mode Spoolfile?

A. In order to copy portions of a Native Mode Spoolfile do the following:

1. :FILE FROM=0nnn.OUT.HPSPOOL;COPY
2. :FILE TO=MYSPOOL;COPY;CCTL
3. :FCOPY FROM=*FROM;TO=*TO;NEW;SUBSET=range
4. :SPOOLF MYSPOOL;PRINT

range is a pair of unsigned integers of the form a, b or a:b

In the form a,b

a is the starting column

b is the number of columns to be converted.

In the form a:b

a is the starting column.

b is the ending column.

To summarize: Specify ;COPY on all :FILE equations and ;CCTL on the TO :FILE equation, then use FCOPY to append the spoolfiles. This preserves all spoolfile record header information.

Note When done, you may want to purge the original spoolfile and the file, MYSPOOL.

Q. I have an HP 3000 960 that is on MPE/XL 2.1. I have a user on the system who has the following capabilities: AM, AL, GL, ND, SF, BA, IA, OP. This user is presently able to read Native Mode Spooler spoolfiles that were created in other accounts. I thought that users with AM, Account Manager, capability would only be able to read spoolfiles created by

users in their own accounts. Why is this user able to access spoolfiles beyond her own account?

- A. A user that has OP, System Supervisor, capability will be able to access Native Mode Spooler spoolfiles that were created by users in other accounts, except for private spoolfiles. Do not give users OP capability if you wish to restrict their ability to access spoolfiles in other accounts. For more information on the Native Mode Spooler, refer to the Communicator 3000/XL for XL Release 2.1, part number 5957-7024 or the Native Mode Spooler Reference Manual, (HP part number 32650-60063).

* * * * *

- Q. I just updated to MPEXL 2.2 with the Native Mode Spooler. Now I notice that all Spool Files I create always go to LDEV 1. I looked at my class configuration in SYSGEN, and all of my disc drives have device class SPOOL on them, yet all spool files still go only to ldev 1. What might be causing this and how can I get spool files to go to my other disc drives?

- A. The problem in this case is most likely due to the way Volume Class SPOOL is defined in Volutil.

The problem is if volume class 'SPOOL' exists anywhere, spool files will only go to devices in this volume class. However, if SPOOL is not set up as a volume class, spool files will get spread to all DISC devices.

In other words, volume class SPOOL should either include ALL discs that are to be used for spooling, or NONE of the discs.

The VOLUME CLASS defined in VOLUTIL is different than the DEVICE CLASS defined in SYSGEN, and that is where most of the confusion arises.

Whether or not this is the problem can easily be verified with Volutil and the following commands:

```
mpexl:    VOLUTIL
Mirvutil  A.00.01, (C) Hewlett-Packard Co. 1989. All Rights Reserved.
volutil:  SHOWCLASS SPOOL;INFO=VOLUMES
```

```
Volume name:      Index:
-----
```

MEMBER1

1

As in the above example, if only ldev 1 has volume class 'spool' on it, all spool files will be created only on ldev 1.

This situation can be corrected by expanding volume class 'spool' to include all disc drives that you wish to have spool files on.

For example, to add MEMBER2 to Volume Class Spool, enter the following:

volutil: EXPANDCLASS MPEXL_SYSTEM_VOLUME_SET:SPOOL (MEMBER2)

It should also be noted that even though MPEXL uses the Volume Class to determine where to place files, the Device Class 'spool' must also exist in SYSGEN on at least one device (it does not matter which one). This is due to the fact the MPE XL checks to make sure that 'SPOOL' is a valid Device Class before checking for which devices are in the Volume Class.

Q. What are the P1 and P2 values that are displayed by the PRINTSPF command?

A. These parameters are holdovers from MPE/V spooling and were originally used for the ATTACHIO calls. P1 is for carriage control and has the following meaning:

Value contained in P1	Meaning
Equal to 1	The first byte of the output record is the carriage control byte
Not equal to 1	P1 itself contains the carriage control byte.



P2 is used for printer control. It has the following meanings:

P2 Value	Meaning
If ODD	Data record is to be printed in prespace mode
If EVEN	Data record is to be printed in postspace mode
Bit 14 on	No perforation skip
Bit 14 off	Skip over perforation area if necessary.

For more information, please refer to the Native Mode Spooler Reference Manual, (HP part number 32650-60063).

Q. I just updated my HP3000 900 series system to MPE XL A.40.00 (2.1). I also have an MPE V/E system and I need to transfer spoolfiles from one system to another. I used to use SPOOK to OUTPUT the spoolfiles to tape. How do I do this with the NATIVE MODE SPOOLER?

A. Since the SPOOK utility is no longer available on 2.1, there is a new utility called SPFXFER that provides compatibility with the MPE V/E spooler. There are four commands in SPFXFER. They are HELP and EXIT, which are self explanatory, and INPUT and OUTPUT. The INPUT and OUTPUT commands follow the same syntax as in the SPOOK utility.

NOTES

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